GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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GENERAL PROJECT INFORMATION

Project Title:	Compounding Biodiversity Actions and Traditional Knowledge for Access and Benefit Sharing Systems Transformation (CATALYST)		
Region:	Asia	GEF Project ID:	12255
Country(ies):	Indonesia	Type of Project	Medium-sized Project two-steps
GEF Agency(ies):	UNDP	GEF Agency Project ID:	PIMS 10363
Anticipated Executing Entity(s) and Type:	Ministry of Environment (MoE)	Government	
		(choose executing agency type)	
GEF Focal Area(s):	Biodiversity	Submission Date: 1st resubmission 2nd resubmission 3rd resubmission	22 December 2025 16 April 2026 8 May 2026 15 May 2026
Type of Trust Fund:	GEF Trust Fund	Project Duration (Months)	48
GEF Project Grant: *(a)*	US$ 5,000,000	GEF Project Non-Grant *(b)*	
Agency Fee(s) Grant: *(c)*	US$ 475,000	Agency Fee(s) Non-Grant: *(d)*	
Total GEF Financing: *(a+b+c+d)*	US$ 5,475,000	Total Co-financing:	US$ 35,163,000
PPG Amount *(e):*	US$ 150,000	PPG Agency Fee(s) *(f)*:	US$ 14,250
Total GEF Resources (a+b+c+d+e+f)	US$ 5,639,250		
Project Tags:	☐ CBIT ☐ NGI ☐ SGP ☐ Innovation		
Project Sector (CCM only)	(select)		

Project Summary

Indonesia has important legal and institutional foundations for Access and Benefit Sharing (ABS), but the system is not yet operational in practice. ABS implementation remains fragmented across sectors and ministries; there is no fully functional end-to-end workflow linking access applications, PIC/MAT, checkpoints, compliance monitoring, and issuance of IRCCs; traditional knowledge protection and community protocols are uneven; capacities of government agencies, IPLCs, researchers, and private users remain limited; and there are still no tested ABS transactions demonstrating how biodiversity use can generate fair benefits for communities while supporting conservation. These gaps are compounded by the lack of national operational guidance on digital sequence information (DSI). As a result, Indonesia's biodiversity and associated traditional knowledge remain under-protected and undervalued, while lawful and equitable ABS transactions remain rare.

The project will address these barriers through four mutually reinforcing strategies/components. Component 1 will strengthen and harmonize the national ABS framework by supporting adoption of key ABS regulations and tools, designation of competent national authorities and checkpoints, establishment of a National ABS Steering Committee, operationalization of an ABS One Stop System integrated with the ABS Clearing-House, and establishment of provincial ABS front offices. Component 2 will build the operational capacity of authorities, IPLCs, research institutions, and private sector actors to apply PIC/MAT procedures, protect traditional knowledge, use the ABS system, comply with checkpoint and reporting requirements, and develop a pipeline of potential ABS partnerships. Component 3 will pilot ABS implementation in biodiversity-rich provinces by developing opportunity portfolios and brokering at least two community-private sector ABS agreements with PIC/MAT and IRCC issuance, generating monetary and non-monetary benefits for IPLCs and linking these benefits to sustainable management of biodiversity-rich landscapes and seascapes.

Component 4 will consolidate lessons and enable national replication through an ABS knowledge management system and a costed national ABS roadmap for scale-up.

Through this approach, the project will advance equitable access and benefit sharing in Indonesia by turning a fragmented ABS framework into a functional national system that can deliver real transactions, stronger traditional knowledge protection, and conservation-linked community benefits. Expected results include a coherent national ABS framework and operational one-stop system; effective cross-government ABS coordination and checkpoints; at least 600 people trained and applying ABS tools; at least two pilot ABS agreements implemented with fair benefits for at least 1,000 IPLCs; and a national ABS knowledge and scale-up system reaching at least 2,000 direct beneficiaries. The project's global environmental benefits will be achieved by linking ABS agreements to sustainable community stewardship and conservation reinvestment across at least 10,000 ha of forest ecosystems (including avoided deforestation of 350 ha of tropical forest), contributing to biodiversity conservation and an estimated 328,385 tCO2e in avoided greenhouse gas emissions over 20 years.

Indicative Project Overview

Project Objective:	To operationalize Indonesia's national access and benefit-sharing system and deliver fair and equitable benefits to Indigenous Peoples and Local Communities from the use of biodiversity and associated traditional knowledge					
Project Components	Component Type	Project Outcomes	Project Outputs	Trust Fund	(in $) GEF Project Financing	(in $) Co-financing
1. Strengthening National ABS Policy and Implementation Framework	Technical Assistance	1. National ABS legal, policy, and institutional frameworks are strengthened and harmonized, *as indicated by:* *National ABS regulation (PP-ABS) and 5 ministerial ABS regulations adopted;* *>= 10 ABS tools (PIC/MAT/MTA/TK/FPIC templates, SOPs, guidelines) adopted;* *National ABS Steering Committee operational;* *≥3 CNAs formally designated with approved SOPs;* *Approved inter-agency RACI and coordination MoU signed between 7 government agencies;* *>= 4 checkpoints designated and operational (Customs, Quarantine, research-permit authority, etc.);*	1.1. Priority ABS policies, regulations, guidelines, and standard operating procedures developed, harmonized between government agencies, and formally adopted by the government 1.2. ABS Competent National Authorities are officially designated, and National ABS Steering Committee established to coordinate and govern Indonesia's ABS implementation across key ministries, including environment, agriculture, economy, health, and relevant sectors 1.3. ABS One Stop System (OSS-ABS) is established and integrated with ABS Clearing-House (ABS-CH) to streamline end-to-end ABS workflows, enable data sharing with checkpoints, and provide transparent tracking/ reporting for users, CNAs, and communities	GEFTF	1,000,000	12,500,000

		ABS One Stop System operationalized; *>= 3 Provincial ABS front offices are established (3-4 officers each)*	1.4. Provincial ABS front offices are established in three target provinces as the single window for communities, researchers, and companies to facilitate and implement ABS agreements			
2.ABS Capacity Building with focus on Government Agencies, Private Sector, and IPLC	Technical Assistance	2. Increased ABS capacity and stakeholder readiness for inclusive ABS implementation through outreach, capacity development for Government Agencies, Private Sector, and IPLC, *as indicated by:* *>= 200 officials (50% are women) completed ABS training;* *>= 200 IPLCs (50% are women) from 6 communities have practical skills in negotiating and managing ABS agreements;* *>=60 companies (at least 40% women-led) trained on ABS compliance and implementation of ABS agreements with communities;* *≥10 institutions adopt ABS SOPs and Compliance Plans*	2.1. Authorities and institutions are trained on Indonesia's ABS regime, including PIC/MAT procedures, TK/FPIC safeguards, OSS-ABS use, IRCC/ABS-CH workflows, checkpoint/compliance duties, post-access reporting, service standards, and basic DSI/data stewardship 2.2. Capacity building program for local communities and Indigenous Peoples in target provinces to develop FPIC-ready community protocols, document and safeguard traditional knowledge, form ABS negotiation teams, and manage ABS agreements 2.3. Private sector engagement and ABS awareness program is launched to onboard companies and research users to OSS-ABS, build ABS compliance, and initiate a pipeline of LOIs that progress to IRCC-backed ABS agreements with communities	GEFTF	1,000,000	7,300,905
3.Piloting ABS Agreements with Communities and Private Sector in two target provinces	Technical Assistance	3. ABS-Agreements implemented in biodiversity-rich landscapes and seascapes, generating equitable benefit-sharing for IPLCs and informing policy scale-up, as indicated by:	3.1. ABS Opportunity Portfolios are developed for priority provinces and presented to private sector investors in Indonesia and abroad	GEFTF	2,361,905	8,136,208

		>= 4 ABS Opportunity Portfolios for three target provinces completed and presented to investors; *>= 6 LOIs/term sheets secured from companies/research users;* *⩾5 Biocultural Community Protocol (BCPs) recognized and in force across pilot sites co-led by women (women hold at least one of the top leadership roles and constitute at least 40–50% of the BCP drafting and oversight committee members);* *>= 2 ABS Agreements negotiated and signed with complete PIC/MAT packs and IRCCs issued;* *>=$100,000 monetary value of benefit-sharing obligations under 2 ABS Agreements;* *>= 1,000 IPLCs (50% women) directly benefit from the ABS Agreements;* *>=9,6500 ha of tropical forest under sustainable management through the ABS Agreements (GEF CI 4.1)* *>= 350 ha of tropical forest avoided from conversion/degradation under ABS-supported community stewardship (GEF CI 4.4)*	3.2. Pilot ABS agreements (two) based on PIC/MAT (IRCCs issued) are developed, signed and implemented between IPLCs and Private Sector in priority provinces with benefits reinvested in communities and biodiversity conservation			
4. ABS Knowledge Management and Scaling Up	Technical Assistance	4. National ABS knowledge management system captures and shares lessons from pilots and agencies for effective scaling up of genetic	4.1. Established national ABS knowledge management system sharing lessons and best practices in Indonesia and beyond	GEFTF	250,000	3,502,900

		benefit sharing, *as indicated by:* *National ABS knowledge management system operational;* *>= 5 ABS knowledge products produced by the project applied by government agencies and private sector* *National ABS Roadmap (for 5-10 years) approved and published;* *>= 2,000 direct project beneficiaries (50% women) from all project Components*	(connected to ABS One Stop System (Output 1.2)) 4.2. National ABS Roadmap published providing a costed 5–10-year plan to scale ABS nationwide			
5. M&E	Technical Assistance	Evidence-driven and transparent project implementation, *as indicated by:* *- satisfactory rating of the project Quality Assurance supported by MTR and TE;* *>=50% of local people in the project area are aware of Grievance Redress Mechanism procedures*	5.1. The project's Monitoring and Evaluation (M&E) system, Gender Action Plan and Environmental and Social Safeguards are implemented	GEFTF	150,000	2,000,000
Subtotal				GEFTF	**4,761,905**	**33,440,013**
Project Management Cost (PMC)				GEFTF	238,095	1,722,987
Total Project Cost					**5,000,000**	**35,163,000**

PROJECT OUTLINE

A. PROJECT RATIONALE

Indonesia is a megadiverse country that became a Party to the Nagoya Protocol in 2014 (ratified by Law No. 11 of 2013). Over the past decade, Indonesia has been developing its national Access and Benefit-Sharing (ABS) framework to ensure equitable sharing of benefits from genetic resources and associated traditional knowledge. A national strategy and action plan for Nagoya Protocol implementation has been in place since 2011[1]. However, full implementation is still in progress, using a patchwork of existing laws and new regulations. As of the mid-2020s, Indonesia's ABS system can be characterized as partially implemented: basic access controls exist, and some benefit-sharing principles are acknowledged, but a comprehensive ABS law is still pending[2]. Multiple

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sectoral regulations and institutions govern ABS, creating a complex landscape for users and providers of genetic resources. The current stage is one of transition: significant policy advances have been made, yet on-the-ground benefit-sharing arrangements remain limited. The country's genetic resources and traditional knowledge remain under-protected and undervalued in practice. The institutional and operational architecture that makes ABS work end-to-end has not been fully assembled. Evidence from national analyses and stakeholder assessments points to fragmented, sectoral rules; unclear roles for key functions (one-door service, checkpoints, monitoring of use); and limited operational guidance and information systems create conditions that elevate the risk of misappropriation and deter compliant R&D and investment.

Under-valuation of biodiversity assets is another signal that the enabling system is not translating potential into regulated value chains. Of Indonesia's ~25,000 plant species, only ~30% are known to have medicinal uses and ~4% are cultivated, leaving a vast pipeline of potential compounds and products under-explored and unlinked to benefit-sharing. Additionally, women knowledge-holders are still disproportionately excluded from formal ABS processes, limiting their ability to negotiate fair terms and access benefits.

At the same time, a rules-based ABS system would directly support national green and blue economy ambitions and better links research to industry. It would align with new policy directions that elevate biodiversity and bioeconomy: country programming materials already frame ABS as a lever for economic transformation, stronger R&D linkages, and transparency via the ABS Clearing-House. By closing compliance gaps and enabling fair, transparent ABS deals, the suggested project will curb unauthorized use of genetic resources, embed conservation duties on accessors, and channel predictable monetary and non-monetary benefits to IPLCs, strengthening their rights, livelihoods, and long-term stewardship of biodiversity.

Future scenarios for Indonesia that can influence ABS implementation

Based on the analysis of the situation in Indonesia the following four simple future scenarios were considered for this GEF project[3]:

Scenario 1: Global Green Renaissance, National Empowerment (Probability – Low): By the mid-2030s, strong global climate action and biodiversity conservation efforts have kept climate change impacts moderate. International cooperation succeeds in curbing emissions and funding conservation, easing environmental pressures. Indonesia's governance remains stable and proactive, with high capacity to implement policies. Crucially, the country enacts long-awaited reforms to recognize Indigenous and local community land rights (the Indigenous Rights Bill finally passed), rapidly scaling up tenure recognition beyond the ~8 million hectares titled as of 2024[4]. Empowered by secure tenure and legal rights, IPLCs (Indigenous Peoples and Local Communities) actively steward forests and biodiversity, boosting ecosystem health. Global trends reinforce this positive trajectory: a robust multilateral framework for Digital Sequence Information (DSI) benefit-sharing is in place with a global fund channeling monetary benefits from biotech innovation into conservation and community development[5]. Booming biotech and nature-based industries seek Indonesia's biodiversity for new products, but clear international rules and national ABS laws ensure fair access and equitable benefit-sharing. Economic development is intense but *green*, driven by sustainable agriculture, eco-tourism, and bioindustries and balancing growth with ecological protection.

Scenario 2: Global Progress, Local Headwinds (Probability – Medium): The world of 2030–2040 has made significant strides in addressing climate change and supporting biodiversity. Global emissions peak early, and climate change impacts in this decade are milder than feared, thanks to international efforts. A strong global ABS regime is also in place: for example, clear rules on digital genetic data ensure companies share benefits from any Indonesian genetic resources used in biotech[6]. However, Indonesia struggles to capitalize on these favorable global trends due to domestic governance and social challenges. Political stability is shaky or marked by weak capacity in environmental and ABS enforcement. Economic development is intense and fueled by global demand for commodities and new infrastructure projects, but often at odds with sustainability. Unsustainable practices (e.g., rapid deforestation, mining) continue to endanger Indonesia's rich biodiversity despite global awareness. Land tenure reform and community empowerment lag: by the mid-2030s, only a modest increase in IPLC land recognition is achieved beyond earlier 2020s levels. The *pace* of recognizing Indigenous territories remains slow, with perhaps ~10–12 million hectares formally recognized (still far below the 30+ million ha claimed by communities) as political will for deeper reform is lacking. Without strong legal

[3] Scientific and Technical Advisory Panel to the Global Environment Facility (2023). *Simple Future Narratives: Helping to Ensure the Durability of GEF Investments.* STAP Brief, June 2023. Available at: https://stapgef.org/resources/advisory-documents/simple-future-narratives-brief-and-primer.

[4] news.mongabay.com

[5] abs-biotrade.info

[6] abs-biotrade.info

empowerment, communities have limited voice in resource governance. Consequently, even though international frameworks exist to share benefits, domestic shortfalls mean benefits often fail to trickle down to local communities. ABS agreements may be signed at national or international level, but corruption or poor implementation can derail fair benefit distribution on the ground.

Scenario 3: Resilient Archipelago in a Hotter World (Probability – High): In this scenario, international climate efforts falter and the 2030s are marked by severe climate change impacts globally. Temperature rise and erratic weather batter many countries, and Indonesia is no exception: the nation faces more frequent extreme events, impacting its ecosystems and disaster response systems. Global economic and political trends are turbulent: for instance, negotiations over DSI collapsed in disagreements, leaving no effective global mechanism for sharing benefits from genetic data. Despite this hostile global context, Indonesia's domestic trajectory is one of adaptive resilience. Learning from past crises, Indonesian leadership (government, NGOs, and community coalitions) doubles down on stability and inclusive governance. By the early 2030s, the country passes robust environmental and ABS regulations to safeguard its natural heritage amidst global uncertainty. A landmark Indigenous Peoples' Rights Act is finally enacted, vastly strengthening community land tenure and legal empowerment. As a result, IPLCs manage a growing share of forests and conservation areas, drawing on traditional knowledge to build resilience against climate stress. Economic development is more cautious than in other futures: with global markets shaky, Indonesia pivots toward self-reliance and sustainability. The state and local communities invest in domestic biotechnology and bioindustries, adding value to genetic resources at home rather than exporting raw materials. By 2040, Indonesia has its own digital sequence databases and R&D centers, enabling it to utilize biodiversity for pharmaceuticals, agriculture, and climate adaptation solutions internally. Such efforts help ensure that even without a strong global ABS regime, benefits from genetic resources are shared within Indonesia.

Scenario 4: Climate Chaos and Resource Collapse (Probability – Medium): This is a worst-case scenario where multiple drivers trend negatively. The 2030s bring unbridled climate chaos: global efforts to limit warming have failed, and Indonesia experiences devastating environmental pressures. Sea levels are noticeably higher, submerging coastal villages; extreme storms and prolonged droughts alternate, leading to crop failures and ecosystem breakdown. Biodiversity loss accelerates as habitats are destroyed by both climate impacts and desperate human actions. Political and governance stability deteriorate under these strains. Indonesia's government faces crises on multiple fronts (disaster response, economic recession, social unrest), causing environmental governance and capacity for long-term planning to erode. Short-sighted policies prevail: in a bid to prop up the failing economy, there is a rush to exploit natural resources. Regulatory oversight weakens, and illegal or unsustainable extraction of timber, minerals, and wildlife becomes rampant. Land tenure reforms stall completely: much of the progress made in the 2010s and 2020s is reversed or lost amid the chaos. Many IPLC territories remain unrecognized, and land grabs by powerful interests accelerate, displacing communities. With few legal protections, Indigenous and local peoples struggle as outsiders claim their forests and knowledge. Globally, cooperation has broken down too. No meaningful framework exists to govern digital genetic resources or biotech uses, companies and even state actors freely mine genetic databases for valuable information without consent or benefit-sharing, a phenomenon critics term "digital biopiracy." Indeed, biodiversity-rich countries like Indonesia, which "own" the genetic resources underlying much digital data, do not profit at all from foreign companies' lucrative discoveries. By the late 2030s, Indonesia's ABS framework is effectively non-functional, any existing laws are ignored in practice, and the principles of fair access and benefit-sharing are sidelined by the imperative of survival and profit in a collapsing system.

The four scenarios were used to test whether the proposed ABS design would remain relevant under different combinations of global ABS/DSI rules, domestic governance capacity, climate stress, market demand, and IPLC empowerment. They informed the project design in four ways. Under *Scenario 1 — Global Green Renaissance, National Empowerment*, the project's OSS-ABS, designated CNAs, provincial front offices, opportunity portfolios, and pilot ABS agreements are designed to capture favorable global and domestic conditions by rapidly converting market interest into compliant, IRCC-backed ABS transactions. Under *Scenario 2 — Global Progress, Local Headwinds*, where international rules improve but domestic implementation remains uneven, the project directly addresses the weak link by strengthening inter-agency coordination, standardizing PIC/MAT/DSI procedures, establishing provincial front offices, and building compliance capacity among authorities, IPLCs, and companies. Under *Scenario 3 — Resilient Archipelago in a Hotter World*, where global cooperation is weak but Indonesia's domestic governance improves, the project emphasizes nationally controlled ABS functions, including PP-ABS, OSS-ABS, domestic DSI guidance, community protocols, and national R&D/private-sector engagement, so that benefit-sharing can proceed even without a strong global ABS/DSI regime. Under *Scenario 4 — Climate Chaos and Resource Collapse*, the project recognizes that a fully non-functional national ABS framework would exceed the ability of a medium-sized project to overcome. Therefore, the design focuses on resilience measures that reduce the risk of such failure and preserve minimum operational capacity: legally anchored mandates, government-hosted digital systems, provincial service windows, FPIC-ready community protocols, benefit-sharing templates, grievance mechanisms, and a national ABS roadmap. These elements do not make the project immune to systemic governance collapse, but they increase the likelihood that

core ABS functions, community rights, and institutional memory can survive periods of stress and be scaled or reactivated when conditions stabilize.

Transformative Paradigm Shift: A fully operational ABS regime in Indonesia will replace fragmented, discretionary access with a transparent, rules-based system anchored in a PP-ABS (government regulation), harmonized ministerial regulations, gender-balanced CNAs and checkpoints, and risk-proportionate PIC/MAT SOPs (including TK/FPIC, and disclosure-of-origin). OSS-ABS becomes the single digital ABS backbone, so permits, IRCC issuance, checkpoint due-diligence, DSI-related reporting, and benefit-tracking are routine public functions instead of ad-hoc negotiations. Provincial ABS Offices localize service delivery; community ABS protocols and cooperatives ensure FPIC, equitable sharing, grievance redress, and conservation conditionality are built into every deal. A publicly reported ABS finance mechanism channels monetary and non-monetary benefits to IPLCs and reinvests in restoration and climate resilience. As the result Indonesia will have lower lawful bioprospecting and R&D transaction costs, sharp reductions in biopiracy (including misuse of DSI), predictable compliance signals that crowd-in universities, SMEs, and investors, and durable, locally owned bio-economy growth that rewards the stewardship of Indonesia's biodiversity.

Baseline Policies, Regulations, and Programs in Indonesia to establish ABS Framework

Indonesia's ABS framework is built on a suite of laws and regulations enacted over the last 10–15 years. These cover access to genetic resources, protection of traditional knowledge, research permitting, and related areas. Key national baseline ABS policies and regulations include:

- **Law No. 5 of 1990 (Conservation of Living Resources and Ecosystems):** The foundational biodiversity law that regulates conservation and sustainable use of wild flora and fauna. It distinguishes "wild" plants/animals (including those artificially propagated) from domesticated ones, and requires permits for utilization of protected species[7]. This law is currently under revision to align with Nagoya Protocol principles, as its benefit-sharing provisions are not explicit;
- **Ratification of the Nagoya Protocol:** Indonesia ratified the Protocol via **Law No. 11 of 2013**, signaling commitment to ABS. The ratification spurred efforts to develop a dedicated ABS legal framework[8];
- **Ministry of Environment and Forestry (MoEF) Regulation P.33/MENLHK/SETJEN/2017:** This is a cornerstone regulation on **Access to Genetic Resources of Wild Species and Benefit-Sharing**. Adopted in late 2017 and coming into effect in 2018, it establishes ABS procedures and institutional arrangements for accessing genetic materials (and their derivatives) from wild species in Indonesia. The regulation covers both commercial and non-commercial access to genetic resources and associated traditional knowledge, requiring Prior Informed Consent (PIC) from providers and Mutually Agreed Terms (MAT) for fair benefit-sharing. Notably, it applies to genetic resources and their biochemical derivatives, as well as related genetic information. The scope is broad: even direct commercialization of biological resources (not just R&D utilization) triggers ABS requirements in Indonesia, going beyond the minimum Nagoya Protocol triggers. Annexes to this 2018 decree provide standard PIC and MAT templates for users and providers. This regulation also imposes controls on export of genetic material, requiring material transfer agreements and, in some cases, prohibiting export if research can be done domestically[9];
- **MoEF Regulation No. P.34/MENLHK/2017 on Recognition and Protection of Local Wisdom in Natural Resource Management:** This policy recognizes the rights of local communities over traditional knowledge and "local wisdom" associated with biodiversity. It requires that anyone seeking access to traditional knowledge or community-held biological resources obtain PIC from the knowledge holders and negotiate MAT, including fair monetary or non-monetary benefit-sharing. The regulation explicitly mandates that users respect community protocols and obtain consent per the community's customary procedures. This was one of the first legal instruments in Indonesia to link traditional knowledge with ABS principles at the community level[10];
- **Ministry of Agriculture Regulation No. 37/2011 on Conservation and Utilization of Plant Genetic Resources:** Focused on plant genetic resources for food and agriculture (PGRFA), this requires permits for accessing plant genetic material for research or breeding. Foreign researchers must collaborate with local partners and secure PIC and MAT for PGRFA access, aligning with both the Nagoya Protocol and the International Treaty on PGRFA[11];
- **Government Regulation No. 41/2006** (and earlier **Forestry Ministerial Decree No. 447/2003**): These govern research by foreign entities in Indonesia and the collection of biological specimens. Regulation 41/2006 stipulates that any foreign university,

[7] static1.squarespace.com
[8] s3.amazonaws.com
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company or institution must obtain a research license and partner with an Indonesian institution for in-country research. If foreign researchers wish to export any biological samples, they must have a Material Transfer Agreement and special export permits or recommendations. These serve as ABS checkpoints: at Customs and quarantine, authorities verify that foreign researchers have the proper permits and collaboration agreements. The requirement for collaboration and data sharing ensures that Indonesian counterparts are involved and some benefits (e.g., co-authorship, capacity building) accrue locally[12].

- **Law No. 11 of 2019 on the National System of Science and Technology:** This recent law introduced stricter provisions to prevent unauthorized transfer of genetic resources and knowledge. It requires foreign researchers to obtain permits, follow ethics guidelines, involve local researchers, and share data and research benefits with Indonesia. Notably, it prohibits the export of any biological material or associated traditional knowledge (in physical or digital form) for R&D if equivalent testing can be done in Indonesia. The law even mandates that foreign research projects demonstrate "beneficial outcomes" for Indonesia. Violations can incur heavy sanctions, including criminal penalties, underscoring Indonesia's resolve to curb biopiracy. Regulations under this law to further detail ABS requirements are anticipated, though not yet fully developed[13].
- **Patent Law No. 13 of 2016:** Indonesia amended its patent law in 2016 to include disclosure of origin requirements and protections for genetic resources and traditional knowledge. Any patent application for an invention that involves genetic material or associated traditional knowledge must disclose the source of those resources. This measure aims to prevent patents based on Indonesia's genetic heritage without consent, thereby deterring biopiracy[14]. The patent law changes are a compliance mechanism under Nagoya Protocol Article 15–16 (user measures), ensuring users of Indonesian genetic resources cannot legally monopolize inventions without acknowledging and presumably having accessed the material lawfully.

In terms of **institutional arrangements**, Indonesia has designated a Nagoya Protocol **National Focal Point** (the Deputy Minister of Environmental Degradation and Pollution Control,, MoE). Rather than a single ABS agency, the country uses a sectoral approach: several ministries act as *Competent National Authorities (CNAs)* for ABS within their domains. Specifically, the Ministry of Environment and Forestry handles wild biodiversity, the Ministry of Agriculture handles agricultural genetic resources, the Ministry of Marine Affairs and Fisheries handles marine genetic resources, and the Ministry of Health oversees access relating to medicinal resources. This multi-authority setup reflects the diverse uses of genetic resources but requires strong coordination. A Presidential Regulation No. 28 2014 clarified ministerial roles in ABS to some extent. Each competent authority is responsible for granting access permits in its sector, while the ABS National Focal Point and an ABS Secretariat coordinate overall policy.

Indonesia is also developing its **ABS Clearing-House infrastructure**. An online application and permitting system has been envisioned to streamline ABS requests, although as of 2025 this system is not yet fully operational. The country has not yet published permits or issued Internationally Recognized Certificates of Compliance on the CBD's ABS Clearing-House, as formal ABS access procedures are still being finalized (national ABS framework remains under development, with fragmented policies and complex inter-ministerial coordination still being resolved before a fully operational permit workflow can be rolled out). However, Indonesia has designated certain ABS checkpoints (e.g., Customs, quarantine offices, research permitting agencies) to monitor genetic resource movement and ensure compliance with PIC/MAT requirements. Overall, Indonesia's policy direction is favorable for ABS: biodiversity and bioeconomy are elevated in the IBSAP 2025–2045 and the RPJMN 2025–2029, with country programming already underlining ABS as a mechanism to finance conservation, connect R&D to industry, and increase transparency through the ABS Clearing-House.

Additionally, the Indonesian government has backed ABS implementation with budget allocations. Each relevant ministry dedicates a portion of its funds to Nagoya Protocol activities; combined, roughly 10% of the biodiversity conservation unit's budget is directed to ABS implementation annually[15]. Such funding supports the work of ABS focal points, the development of databases, and enforcement of regulations. Dedicated staff have been assigned to handle ABS matters in the MoEF and other agencies (though staffing remains modest). The sustained budget and personnel commitment over the decade is a positive achievement toward institutionalizing ABS.

The international context for ABS is also evolving in the marine domain through the Agreement under UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement), which entered into force

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on January 17 2026. The BBNJ Agreement establishes a new international framework, including provisions on marine genetic resources and the fair and equitable sharing of benefits arising from activities with respect to such resources, as well as digital sequence information on marine genetic resources of areas beyond national jurisdiction. For Indonesia, this means that the national ABS landscape needs to evolve in a way that maintains clarity and coherence between domestic ABS arrangements under the CBD and Nagoya Protocol and the emerging international regime for marine genetic resources and related DSI in areas beyond national jurisdiction. It also highlights the growing importance of strengthening national understanding of DSI, benefit-sharing concepts, inter-agency coordination, and institutional readiness to address future legal, policy, and administrative interfaces between these regimes.

Barriers for effective implementation of the National ABS Framework

Despite the commendable progress, Indonesia faces significant challenges and gaps in fully effective ABS implementation. These include legal, institutional, and practical issues that will need continued attention and described below as **Barriers**:

Barrier 1. *Fragmented ABS policy, unclear mandates of ABS CNAs, und lack of coordination mechanism*. While several regulations supporting ABS exist, Indonesia still lacks a comprehensive ABS law (or Government Regulation – PP) that uniformly covers access and benefit sharing across all genetic resources. The current approach is fragmented: ABS-related provisions are scattered in sectoral laws and ministerial decrees. For example, benefit-sharing obligations are not yet explicitly codified in a single enforceable Act/Government Regulation (PP)[16]. A draft ABS or biodiversity law has been under development for years, but its passage has been delayed due to the need to harmonize multiple ministries' interests[17]. This delay has left some Nagoya Protocol requirements (especially on fair benefit sharing) only partially implemented or unclear in practice. Also Indonesia's current ABS policy framework lacks specific provisions for DSI. While the National System of Science and Technology Law and sectoral regulations address access to physical genetic materials, they do not define procedures for accessing, using or sharing benefits from DSI. There is no national policy on how DSI should be captured, stored, managed or shared, nor on how PIC/MAT rules apply to sequence data. Until a clear legal framework is in place, users of genetic resources may face uncertainty about their obligations, and providers (including communities) lack a strong legal basis to claim benefits.

Additionally, the multi-agency setup for ABS oversight in Indonesia leads to overlapping mandates and confusion, including DSI governance. No single national ABS authority means researchers and companies must navigate a complex bureaucracy: different ministries handle permits for wildlife, agricultural plants, marine resources, and medical bioresources. Coordination among these agencies remains a challenge. For instance, deciding which authority handles a resource that falls in gray areas (e.g., a medicinal wild plant that is also cultivated) can be ambiguous. The lack of one-stop shop for ABS permits and the still nascent online ABS system make the process cumbersome. This complexity discourages compliance and slow down legitimate research and bio-prospecting.

Moreover, there are no dedicated ABS front offices at the provincial level, so applicants and communities must navigate Jakarta-centric, multi-agency channels (environment/forestry, agriculture/PGRFA, marine/fisheries, health/research), which drives delays, inconsistent advice, and low compliance in the regions. The 2014 Presidential Regulation No. 28/2014 clarifies national coordination but does not create sub-national service points; ministerial rules such as MoEF's ABS regulation (2017/2018) similarly set procedures without establishing local one-stop windows, and Indonesia's ABS Clearing-House/Interim National Report notes that implementation remains fragmented and only partially operationalized in practice. Establishing Provincial ABS offices as single windows linked to a national OSS would close this last-mile gap: standardizing PIC/MAT file checks, liaising with community protocols, and ensuring checkpoints and IRCC workflows function outside the capital.

Since CBD COP 15, the global policy landscape for digital sequence information (DSI) has undergone a major transformation. Through Decision 15/9, Parties agreed to establish a multilateral mechanism, including a global fund, to ensure the fair and equitable sharing of benefits arising from the use of DSI on genetic resources as part of the Kunming–Montreal Global Biodiversity Framework. This was further operationalized through COP 16 Decision 16/2, which adopted the modalities of the mechanism, including the Cali Fund. These developments introduce a new global layer to ABS implementation, requiring countries to align national systems with a hybrid architecture combining domestic ABS procedures and multilateral benefit-sharing for DSI.

In Indonesia, however, the current ABS framework remains primarily designed for physical genetic resources and associated traditional knowledge. There is no dedicated national policy, regulatory provision, or operational guidance addressing DSI. Existing

[16] s3.amazonaws.com; static1.squarespace.com

[17] researchgate.net

ABS instruments do not clarify whether and how DSI falls within the scope of access procedures, PIC/MAT requirements, compliance monitoring, or benefit-sharing obligations. Institutional mandates for DSI-related oversight are not defined, and no national workflow exists to guide how DSI should be handled across the ABS lifecycle, including research access, data use, reporting, and linkage to international mechanisms. In addition, there is currently no national mechanism to interface with the emerging global multilateral system on DSI benefit-sharing, including modalities for tracking contributions, accessing funds, or ensuring that IPLCs benefit from DSI-related utilization of biodiversity.

As a result, the rapid growth of digital research, biotechnology, and open-access genetic databases creates a regulatory and governance gap in Indonesia's ABS system, where utilization of genetic resources in digital form may occur without clear benefit-sharing arrangements or safeguards for traditional knowledge holders. This generates uncertainty for both providers, including IPLCs, and users such as researchers and private sector actors, and risks weakening the effectiveness and credibility of the national ABS regime. Addressing this gap requires the development of clear national policy positions, institutional arrangements, and operational guidance on DSI that are aligned with the emerging global multilateral mechanism, which this project will support.

Barrier 2. *Low ABS operational capacity and weak TK/FPIC practice for ABS implementation*. Awareness of ABS rules among local officials, researchers, and communities, while improving, is not yet widespread. Many stakeholders (e.g., universities, regional authorities, small companies, indigenous villages) do not fully understand Nagoya Protocol provisions or national ABS procedures including DSI-specific compliance. Capacity-building efforts are ongoing[18], but more is needed to equip local competent authorities (such as national and provincial environment offices) to implement PIC and MAT requirements. Additionally, many indigenous and local communities themselves require support to engage in ABS negotiations, such as help in documenting their traditional knowledge, developing community protocols, and legal assistance to review ABS agreements. Without sufficient capacity, compliance monitoring (e.g., at customs checkpoints or in research institutions) can be weak[19]. Limited data management systems for tracking genetic resource use have been noted as a gap too. This means authorities might not know when resources leave the country or when research results in a commercial product, undermining benefit-sharing.

Ensuring that ABS rules are followed has proven difficult in the country. Indonesia's vast biodiversity and decentralized governance make it hard to monitor all access to genetic resources and associated DSI. Biopiracy (unauthorized collection or patenting of Indonesia's biodiversity) remains a concern. Cases have been documented where foreign entities patented compounds from Indonesian plants (e.g., Pegagan (*Centella asiatica*) or Pasak Bumi (*Eurycoma longifolia*)) without involvement of Indonesia[20]. Although the patent law now requires disclosure, enforcing benefit-sharing on those who obtained resources before regulations is tricky. There is also the issue of illegal wildlife trade and smuggling of biological samples which can lead to further untracked sequencing and use of DSI. If researchers or collectors bypass formal channels, access permits, MAT and any conditions on the use of DSI cannot be implemented. Indonesia's laws (like the 2019 Science & Tech Law) impose strict conditions on foreign research, but enforcement has been inconsistent in the past[21]. Strengthening checkpoints and compliance measures (Article 15–17 of Nagoya Protocol), including monitoring of DSI use and linkages to global DSI mechanisms, is still a work in progress. The interim national report explicitly flagged coordination among agencies and monitoring of genetic resource utilization as ongoing challenges[22].

Barrier 3. *Lack of real ABS transactions and weak incentives for IPLCs and private sector actors to engage in ABS.* A critical gap is the lack of established ABS agreements yielding tangible benefits to Indonesian stakeholders, especially indigenous/local communities. As of now, Indonesia has had few to no fully executed ABS agreements under its nascent framework including no agreements that clearly address DSI arising from the utilization of genetic resources. One recent study noted that *"so far, there is no benefit-sharing agreement… agreed between local communities or government and the user of biodiversity"* in Indonesia[23]. In practice, this means while access permits and research collaborations occur, they have not yet resulted in a formal sharing of royalties, license fees, DSI-linked monetary contributions, or other monetary benefits with communities or the state. Benefit-sharing has been largely limited to non-monetary returns like joint research and training. The absence of a real-world ABS success story is both a gap and a barrier: without examples, it is hard to convince users to enter agreements or to demonstrate to communities the value of ABS. Developing pilot ABS agreements (e.g., with a pharmaceutical or biotech company utilizing an Indonesian genetic resource and sharing benefits)

[18] s3.amazonaws.com
[19] researchgate.net
[20] papers.ssrn.com; preprints.org
[21] rouse.com
[22] s3.amazonaws.com
[23] ilkogretim-online.org

is a priority to test the system. Additionally, mechanisms for administering shared benefits, such as trust funds or community benefit-sharing funds, have yet to be put in place, including provisions for allocating benefits derived from the use of DSI. This creates uncertainty on how benefits would be distributed and used (for conservation, community development, etc.) when they do materialize.

While policies recognize traditional knowledge, there are legal and practical gaps in fully protecting Indigenous Peoples' interests. Indonesia does not yet have a dedicated law protecting the rights of Indigenous Peoples (the long-discussed Indigenous Peoples Bill is still pending in Parliament). In its absence, communities rely on a patchwork of local regulations and ministerial decrees for recognition. Many communities are still striving for formal recognition of their customary land rights, which is often a precondition to exercise control over biological resources. Moreover, documenting traditional knowledge in a way that prevents misappropriation (e.g., via databases or community protocols) is in early stages. The government's Regulation 34/2017 requires PIC from TK holders[24], but implementing this is challenging when TK is widespread or held collectively by many communities. Ensuring equitable benefit-sharing with communities is also complex: communities often lack legal capacity to negotiate with companies, and benefit-sharing contracts must be carefully crafted to align with customary laws. Without stronger support, indigenous communities risk being sidelined or receiving token benefits. There is also a need to address gender and equity considerations within communities so that ABS benefits reach those who conserve biodiversity on the ground (often women and youth involved in traditional knowledge).

In Indonesia, firms and research users often avoid ABS deals because the process feels high-friction: for example, foreign research permits (formerly RISTEK, now BRIN) require a local partner plus multiple clearances and Material Transfer Agreements before any sample can leave the country; Customs/Quarantine routinely hold biological shipments pending evidence of permits/MTAs. In practice, companies report long, unpredictable timelines to align these parallel requirements, so most activity stops at research MoUs rather than advancing to PIC/MAT contracts with clear benefit-sharing. Several Indonesian universities have also described months-long delays getting export recommendations for microbial strains or plant materials despite MTAs, which discourages compliant private R&D and can push users toward informal arrangements where sequencing and generation of DSI proceed without clear ABS conditions.

Also, companies often unaware on what's genetic resources and associated DSI available in Indonesia, what communities to work with, or how to do it lawfully. Buyers doubt supply and ESG performance without documented harvest/cultivation plans and traceability. Investors hesitate without standardized, comparable ABS dossiers and a clear path to IRCC. As a result: long ABS negotiations, missed product windows, and very few real ABS deals.

Barrier 4. *Insufficient ABS knowledge management and scale-up pathway*. Another challenge in Indonesia is the lack of a comprehensive ABS knowledge management system. Currently, there is no unified platform to document, share, and track Traditional Knowledge, ABS practices, permits, DSI, or lessons learned across government agencies, Indigenous Peoples, local communities, and private users. Although Indonesia has initiated the development of an OSS-ABS platform, it is not yet fully operational or integrated with public dashboards, traditional knowledge registries, IRCC/post-access reporting mechanisms, or any DSI-related databases or linkages to the emerging multilateral DSI mechanism. This fragmentation makes it difficult to ensure that traditional knowledge is systematically documented and protected, and that community consent and gender equity are embedded in ABS agreements. Moreover, Indonesia lacks a costed, time-bound national ABS roadmap to guide scale-up beyond initial pilots. Without such a roadmap, it is challenging to replicate successes, secure long-term financing, or ensure that IPLCs and women are fully included in the ABS planning and implementation process. By establishing a robust knowledge management system and a clear ABS roadmap, Indonesia can ensure that lessons from ABS pilot projects are captured, shared, and scaled up, fostering a more inclusive and resilient ABS framework nationwide.

Key strategies to remove the Barriers for effective ABS implementation
To effectively address the barriers to functional ABS in Indonesia, the following key strategies should be implemented:

- **Adopt a legally binding national ABS framework** by issuing a Government Regulation (PP-ABS), harmonizing sectoral regulations, and formalizing inter-agency coordination through a shared RACI and National ABS Steering Committee, including clear provisions on DSI and alignment with the emerging multilateral DSI benefit-sharing mechanism;

[24] static1.squarespace.com

- **Operationalize an integrated One-Stop ABS System (OSS-ABS) and establish Provincial ABS Offices** to provide streamlined, regionally accessible services for permit processing, PIC/MAT review, and IRCC compliance with dedicated modules for tracking DSI generation, use, and associated benefit-sharing obligations;
- **Strengthen capacity of authorities, IPLCs, private sector, and checkpoints** through targeted training, development of standardized tools (PIC/MAT/TK/DSI templates), and rollout of TK documentation and community protocol systems with gender inclusion, so that agreements systematically cover both physical genetic resources and resulting DSI;
- **Facilitate real ABS transactions** by developing Opportunity Portfolios, brokering community–private sector deals with traceable benefit-sharing, and piloting transparent community ABS funds, ensuring that benefit sharing clauses and financial flows explicitly include benefits derived from DSI;
- **Launch a national ABS knowledge management system** linked to OSS-ABS and publish a costed 5–10-year ABS Roadmap to capture lessons, scale success, and secure inclusive long-term financing and institutionalization including approach to DSI within the ABS framework.

Key Stakeholders for Implementation of ABS strategies

Key stakeholders for ABS implementation in Indonesia include the Ministry of Environment (MoE) as national ABS coordinator; Competent National Authorities across sectors—Ministry of Forestry (wild species), Ministry of Agriculture (PGRFA/plant breeding), Ministry of Marine Affairs & Fisheries (marine genetic resources), Ministry of Health (health policy, biosafety/ethics for biomedical access/use), BRIN (National Research & Innovation Agency) (issues foreign research permits, regulates MTAs/sample exports, manages research collaboration rules, and the Directorate General of Intellectual Property (DGIP) (disclosure-of-origin/user measures); Customs and Quarantine as checkpoints; Coordinating ministries (Economy/Maritime) for inter-agency alignment; provincial governments operating provincial ABS deals and compliance; and Indigenous Peoples and Local Communities (IPLCs), including customary councils, women's and youth groups, and representative bodies (e.g., AMAN) as rightsholders and PIC/TK custodians. Implementation of ABS also relies on universities and public research institutes, industry and SME partners (herbal/phyto-pharma, cosmetics/essential oils, biotech, seed companies), industry associations, and civil society/NGOs providing legal aid, FPIC facilitation, TK documentation, and grievance support. See details in section B: Project Description.

B. PROJECT DESCRIPTION

Project Theory of Change

Based on the situation analysis and set of potential strategies provided in the Project Rationale section above, the following GEF project is being proposed to address the four Barriers for development of functional ABS framework in Indonesia (the project **Theory of Change** is depicted on the Fig. 1 and described below):

The **Project Objective** is to *operationalize Indonesia's national access and benefit-sharing system through legal, institutional and technical frameworks to deliver fair and equitable benefits to Indigenous Peoples and Local Communities from the use of biodiversity and associated traditional knowledge*

The Project Objective is expected to be achieved through implementation of the four project Strategies (**Components**), designed to remove the **Barriers 1-4** and achieve the project **Outcomes** (systematic and transformative changes in the ABS Framework implementation in the country). The strategies have been suggested based on the lessons learned from other GEF and non-GEF projects related ABS implementation in Indonesia and other countries (see the section *Lessons Learned from Previous ABS Initiatives* below) to ensure their effectiveness. The suggested strategies (components) are based on the **GEF-8 Levers** and will work in synergy with each other to establish operational ABS framework in the country:

- **Component 1:** Strengthening National ABS Policy and Implementation Framework;
- **Component 2:** ABS Capacity Building with focus on Government Agencies, Private Sector, and IPLC;
- **Component 3:** Piloting ABS Agreements with Communities and Private Sector in two target provinces;
- **Component 4:** ABS Knowledge Management and Scaling Up.

Implementation of the project Components will be accompanied by participatory and gender-responsive **Monitoring and Evaluation framework** to track project effectiveness, and support project adaptive management.

Thus, **Component 1** is designed to remove **Barrier 1:** *Fragmented ABS policy, unclear mandates of ABS CNAs, und lack of coordination mechanism* and achieve the **Outcome 1:** *National ABS legal, policy, and institutional frameworks are strengthened and harmonized.* Outcome 1 is expected to be achieved through delivery of four project **Outputs** (direct project products and services):

- **Output 1.1.** Priority ABS policies, regulations, guidelines, and standard operating procedures developed, harmonized between government agencies, and adopted;
- **Output 1.2.** ABS Competent National Authorities are officially designated, and National ABS Steering Committee established to coordinate and govern Indonesia's ABS implementation across key ministries, including environment, agriculture, economy, health, and relevant sectors;
- **Output 1.3.** ABS One Stop System (OSS-ABS) is established and integrated with ABS Clearing-House (ABS-CH) to streamline end-to-end ABS workflows, enable data sharing with checkpoints, and provide transparent tracking/ reporting for users, CNAs, and communities;
- **Output 1.4.** Provincial ABS front offices are established in three target provinces as the single window for communities, researchers, and companies to facilitate and implement ABS agreements

So, delivering Output 1.1 creates the ABS enabling rules that define *what* must happen; Output 1.2 establishes *who* is accountable and *how* they coordinate on ABS; Output 1.3 provides the *systems and processes* to implement the ABS rules transparently and on time; and Output 1.4 brings *service delivery* closer to users through Provincial ABS front offices. Together these Outputs establish a basic, but sufficient and functional ABS framework in Indonesia (Outcome 1). The key **assumptions** behind the Outcome 1 are: (a) political commitment remains sufficient to approve PP-ABS/ministerial regulations and to formally designate CNAs/checkpoints; (b) core agencies (MoE, MoF, MoA, MMAF, BRIN, DGIP, Customs/Quarantine) allocate staff/budgets and use the OSS-ABS per agreed SOPs; (c) provincial governments host and staff ABS offices, and IPLCs/communities engage in FPIC and protocol recognition; (d) interoperability with ABS-CH and basic data-sharing with checkpoints are technically feasible and maintained (connectivity, cybersecurity, O&M funding). Achievement of Outcome 1 is based on the **GEF Levers 1 – Governance and Policy** and **GEF Lever 3 – Multi-Stakeholder Dialog** aiming to complete ABS regulation and institutional framework in Indonesia and ensure its sustainability through legal and agency anchoring.

Component 2 is expected to remove the **Barrier 2**: *Low ABS operational capacity and weak TK/FPIC practice for ABS implementation* and achieve the **Outcome 2**: *Increased ABS capacity and stakeholder readiness for inclusive ABS implementation through outreach, capacity development for Government Agencies, Private Sector, and IPLC* via delivery of the **Outputs**:

- **Output 2.1.** Authorities and institutions are trained on Indonesia's ABS regime, including PIC/MAT procedures, TK/FPIC safeguards, OSS-ABS use, IRCC/ABS-CH workflows, checkpoint/compliance duties, post-access reporting, service standards, and basic DSI/data stewardship;
- **Output 2.2.** Capacity building program for local communities and Indigenous Peoples in target provinces to develop FPIC-ready community protocols, document and safeguard traditional knowledge, form ABS negotiation teams, and manage ABS agreements;
- **Output 2.3.** Private sector engagement and ABS awareness program is launched to onboard companies and research users to OSS-ABS, build ABS compliance, and initiate a pipeline of LOIs that progress to IRCC-backed ABS agreements with communities.

This outcome will be achieved by delivering targeted capacity-building and outreach outputs to all key stakeholder groups, ensuring they are prepared to participate in and support ABS. The causal logic linking these outputs to Outcome 2 is clear: improved knowledge and skills (products of the trainings and outreach) lead to changes in behavior and systems. Trained government agencies begin integrating ABS protocols into their operations (improving governance and service delivery), empowered IPLCs proactively engage in ABS negotiations (ensuring inclusive participation), and informed companies adjust their practices to comply with ABS requirements (fostering equitable partnerships). Together, these shifts in capacity and behavior across stakeholders create an enabling environment for inclusive ABS implementation at scale, directly contributing to the increased readiness envisioned in Outcome 2. This approach leverages **GEF Lever 3 – Multi-Stakeholder Dialogue** and **GEF Lever 4 – Innovation and Learning** by building the human and institutional capacities, disseminating ABS knowledge, and facilitating collaboration among government, communities, and the private sector to sustain ABS efforts. **Key assumptions**: (a) government commitment to ABS remains strong, with agencies allocating staff and resources to participate in trainings and to institutionalize new ABS procedures; (b) IPLCs are willing and able to engage in capacity building activities, and trust that their TK will be respected and protected through the ABS process; (c) private sector and research institutions remain interested in ABS opportunities, seeing clear incentives to comply with

ABS requirements and partner with communities; and (d) trained individuals remain in relevant positions and apply their new skills, so that knowledge is retained institutionally and translated into sustained behavior change (limiting the impact of staff turnover or organizational changes).

Component 3 removes the **Barrier 3**: *Lack of real ABS transactions and weak incentives for IPLCs and private sector actors to engage in ABS* and expected to achieve the **Outcome 3**: *ABS-Agreements implemented in biodiversity-rich landscapes and seascapes, generating equitable benefit-sharing for IPLCs and informing policy scale-up* through delivery of the Outputs:

- **Output 3.1.** ABS Opportunity Portfolios are developed for priority provinces and presented to private sector investors in Indonesia and abroad
- **Output 3.2.** Pilot ABS agreements based on PIC/MAT (IRCCs issued) are developed (two), signed and implemented between IPLCs and Private Sector in priority provinces with benefits reinvested in communities and biodiversity conservation.

Outcome 3 will be achieved by piloting tangible ABS partnerships on the ground in three target provinces (preliminary West Sumatra, West Kalimantan, and West Papua), thereby demonstrating the ABS concept and generating real benefits for communities and conservation. Under Output 3.1, the project develops ABS Opportunity Portfolios for the priority provinces that identify promising genetic resource opportunities and associated traditional knowledge, effectively showcasing investment-ready ABS projects to private companies and research institutions. By articulating the business case and conservation value of these opportunities, Output 3.1 aims to leverage finance attracting commitments (e.g., via LOIs or term sheets) from companies and funders to engage in ABS deals. Building on this groundwork, Output 3.2 facilitates the negotiation and signing of pilot ABS agreements between IPLCs and private sector partners in the target landscapes/seascapes. Each pilot agreement is developed through full PIC (prior informed consent) and MAT (mutually agreed terms) processes, with the proper issuance of Internationally Recognized Certificates of Compliance (IRCCs) to ensure legal validity. The agreements establish fair and equitable benefit-sharing arrangements, covering DSI and channeling benefits (financial, technological, or in-kind) back to the communities and dedicating a portion to local biodiversity conservation efforts. By implementing these ABS agreements, the project directly changes stakeholder practices: communities apply their training to negotiate and uphold agreements that reward sustainable use of genetic resources, while companies and researchers obtain access in a compliant manner and provide benefits, thus internalizing new norms of behavior. The causal logic is that successful pilots will serve as proof-of-concept that ABS can work in Indonesia's biodiversity-rich areas: they generate tangible livelihood benefits and conservation outcomes, which builds trust and interest among other communities, companies, and policymakers. Lessons and data from these pilots feed into national policy dialogues (informing refinements to the ABS framework and encouraging supportive policies for scale-up). Moreover, seeing real examples of ABS partnerships reduces perceived risks and encourages replication, as more stakeholders are motivated to pursue similar agreements. In sum, the delivery of the investment portfolios and pilot agreements *(leveraging $100,000 each)* leads to increased financial flows and multi-stakeholder partnerships for ABS at the local level, achieving Outcome 3. This outcome leverages **GEF Lever 2 – Financial Leverage, GEF Lever 3 – Multi-Stakeholder Dialogue**, and **GEF Lever 4 – Innovation and Learning. Key assumptions:** (a) the national ABS legal and institutional framework (developed under Outcome 1) is operational in the pilot areas providing the necessary legal certainty for all parties; (b) indigenous and local communities in the target landscapes remain willing to participate and provide consent for ABS agreements, with strong local governance to support the negotiation and implementation of benefit-sharing deals; (c) companies and research institutions find the identified ABS opportunities sufficiently attractive and are committed to following through on agreements, delivering the promised benefits and compliance measures; and (d) the ABS pilot projects yield meaningful benefits without unforeseen barriers.

Component 4 is designed to remove the **Barrier 4**: *Insufficient ABS knowledge management and scale-up pathway* and achieve the **Outcome 4:** *National ABS knowledge management system captures and shares lessons from pilots and agencies for effective scaling up of genetic benefit sharing* via delivery of the Outputs:

- **Output 4.1.** Established national ABS knowledge management system sharing lessons and best practices (connected to ABS One Stop System (Output 1.2));
- **Output 4.2.** National ABS Roadmap published providing a costed 5–10-year plan to scale ABS nationwide.

The **Outcome 4** will be achieved by creating mechanisms to systematically learn from the project's ABS experiences and to embed that learning into future ABS initiatives and policies. By operationalizing the ABS knowledge system, the project ensures that valuable knowledge (such as effective community engagement models, ABS negotiation strategies, compliance monitoring techniques, etc.) is not lost but instead shared across government agencies, IPLCs, researchers, and other interested parties.

Complementing this, a National ABS Roadmap lays out a course of action for scaling up ABS across Indonesia. The roadmap is informed by the pilot outcomes and stakeholder inputs, providing clear targets, roles, and resource estimates for expanding ABS to more provinces, sectors, and genetic resources in a coordinated manner. The causal link from these outputs to Outcome 4 is that a robust knowledge management system and a forward-looking roadmap will transform one-off project results into sustained, systemic change. Together, these outputs ensure that the project's impact is amplified beyond the initial sites and timeframe: stakeholders nationwide have both the knowledge and the strategic guidance to replicate and scale successful ABS models, thus institutionalizing ABS as a common practice. In achieving this, the project engages **GEF Levers 1 – Governance and Policy**, **GEF Lever 3 – Multi-Stakeholder Dialogue,** and **GEF Lever 4 – Innovation and Learning**. Key assumptions: (a) all relevant stakeholders are willing to contribute information and experiences to the ABS knowledge management system, and actively use the platform to inform their decisions; (b) sufficient resources and institutional support are in place to maintain and update the knowledge management system beyond the project's life; (c) the government endorses the National ABS Roadmap and there is high-level commitment to implement its recommendations.

Participatory and gender-responsive Monitoring and Evaluation system is designed to support Components 1-4 in effective delivery of the Outputs and achievement of the Outcomes 1-4. A participatory, gender-responsive M&E system will be embedded across Components to keep delivery of the Outputs tight and learning continuous. A Project Results Framework will be designed with indicators tracked using sex-disaggregated data. Quarterly reports, PIR/MTR reflections, and a live risk log will drive adaptive management, while community feedback loops (including FPIC follow-ups and satisfaction checks) will inform the project implementation.

The **achievement of the Project Objective**— *advanced equitable access and benefit sharing in Indonesia* —is driven by the successful achievement of the four project Outcomes described above. Together, Components 1-4 remove the key barriers to ABS framework operationalization resulting in systemic and transformative change in ABS implementation in Indonesia.

The project Theory of Change has been tested against the four future scenarios presented in the Project Rationale section. The design is not based on an assumption that all future conditions will be favorable, nor does it assume that a medium-sized project can fully overcome a worst-case national governance collapse. Rather, the project combines four complementary design features that increase the likelihood of achieving the project objective under a range of plausible futures. First, the project anchors ABS in formal legal and institutional systems through the PP-ABS, harmonized ministerial regulations, designated CNAs, checkpoints, and an inter-agency coordination mechanism, reducing dependence on individual champions or ad hoc procedures. Second, it reduces transaction costs and implementation fragmentation through OSS-ABS, links to the ABS Clearing House, standard PIC/MAT/DSI templates, and provincial ABS front offices, making ABS easier to implement even where capacity is uneven. Third, it strengthens the demand and rights-holder sides of the system through private-sector onboarding, ABS opportunity portfolios, IPLC capacity building, FPIC-ready community protocols, and pilot IRCC-backed ABS agreements, so that both users and providers have practical incentives and tools to engage. Fourth, it creates adaptive and replicable learning mechanisms through the ABS knowledge management system, the national ABS roadmap, participatory M&E, and a live risk log. These design features allow the project to accelerate scale-up under favorable futures, compensate for weak domestic implementation under mixed futures, rely more strongly on national and local systems where global ABS/DSI cooperation is weak, and preserve minimum institutional and community-level ABS capacity under high-stress futures. In this sense, the project is not "robust" because it can achieve identical results in all scenarios, but because its design includes safeguards, fallback mechanisms, and adaptive pathways that maintain relevance and protect the core ABS objective under different future conditions.

Key lessons applied for this project

This project approach integrates several critical lessons learned from other ABS projects in neighboring Malaysia (with a higher level of ABS implementation) and other countries, like the following:

- **Secure Political Will and Complete the ABS Legal Framework:** A strong legal and institutional foundation is vital for ABS initiatives. Malaysia's experience shows that even after adopting the Access to Biological Resources and Benefit-Sharing Act 2017, delays in finalizing subsidiary regulations and formally mandating an ABS coordination unit hampered enforcement[25]. Broader lessons indicate that many countries struggle when ABS laws or policies remain incomplete, with weak compliance mechanisms; this gap undermines Nagoya Protocol implementation[26].

[25] gefieo.org

[26] abs-biotrade.info

- **Streamline Permitting and Leverage Digital Tools:** Simplifying ABS procedures encourages compliance. In Malaysia, the absence of a one-stop permitting system forced users to navigate multiple overlapping state and federal permits, causing confusion and deterring research[27]. An important lesson is to integrate processes through a single digital portal that links all agencies and checkpoints. Pioneering countries have begun adopting IT-based tracking systems (e.g., for patent offices or customs), which improve transparency and monitoring[28].
- **Build Capacity and Coordination Across Agencies and States:** Effective ABS implementation requires knowledgeable staff and harmonized protocols at every level. Malaysia found that many state authorities (the Competent Authorities) had limited understanding of the ABS framework, leading to inconsistent or slow permit processes. This was exacerbated by poor coordination: state agencies were sometimes unaware of federal permits issued in their territory, reflecting communication gaps[29]. The lesson is to invest in comprehensive training and coordination mechanisms so that national and state bodies work in sync. Other regions emphasize that without active inter-agency consultation and awareness, it is *"challenging to achieve"* a functional ABS system[30].
- **Engage Stakeholders and Recognize Traditional Knowledge:** Broad awareness and participation are key to a trusted ABS regime. Beyond officials, researchers, companies, and communities must understand their roles and rights under ABS. Past initiatives noted that ABS is complex, and without outreach, compliance falters as users may not realize permit or benefit-sharing obligations. Countries that succeeded in ABS implementation invested in stakeholder engagement: for example, involving national researchers and indigenous representatives in drafting ABS laws builds ownership and clarity[31]. Likewise, building trust between authorities and resource providers is essential; in some cases (e.g., South Africa), empowering communities to develop Biocultural Community Protocols enhanced mutual confidence and understanding.
- **Empower IPLCs and Ensure Equitable Benefit Sharing on the Ground:** Perhaps the most critical lesson is that ABS must deliver tangible benefits to IPLCs to gain legitimacy. In Malaysia's earlier ABS phase, community involvement was minimal, local villagers had to rely on external lawyers to negotiate, and had no legal entity to hold benefits, resulting in low sense of ownership[32]. To address this, communities should be empowered through capacity-building and legal tools (e.g. forming cooperatives or drafting community protocols) so they can be direct partners in ABS agreements. Successful models from Malaysia and abroad reinforce this point. For instance, Sarawak's LitSara pilot, a collaboration with five indigenous communities, built a full value chain for a native plant product; as a result, villagers received training in sustainable harvesting, earned extra income from raw material sales, and now earn royalties from the LitSara® essential oil products[33]. Such examples show that when communities are true partners, ABS can boost local livelihoods and encourage stewardship of biodiversity.

[27] gefieo.org
[28] abs-biotrade.info
[29] gefieo.org
[30] abs-biotrade.info
[31] gefieo.org
[32] gefieo.org
[33] gefieo.org

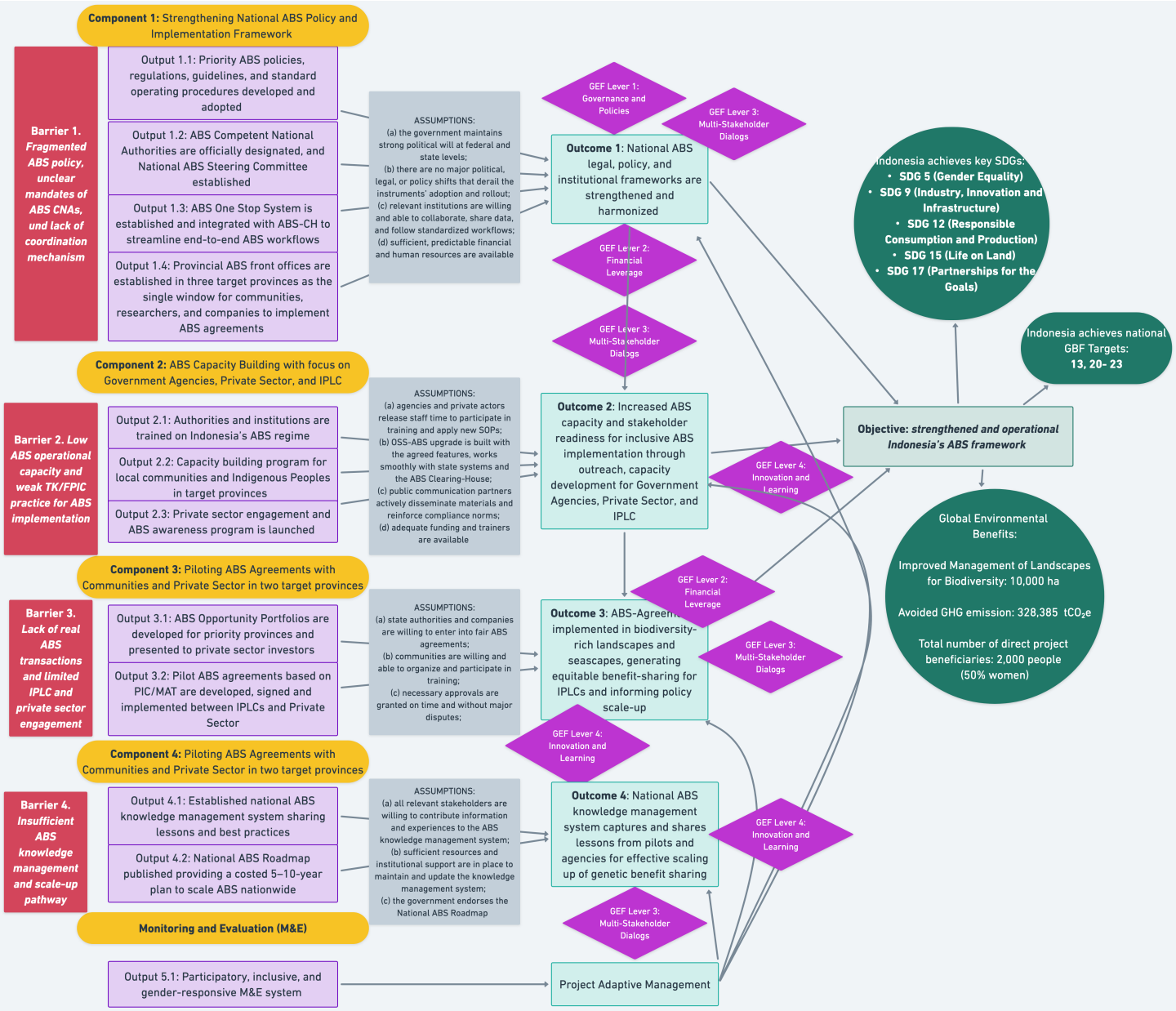


Figure 1. Project's Theory of Change

Suggested project areas:

West Sumatra Province is prioritized for ABS for its rich biodiversity, strong traditional knowledge, and an enabling policy environment for equitable resource management. Ecologically, West Sumatra includes part of the UNESCO-listed Tropical Rainforest Heritage of Sumatra, renowned for exceptional species richness[34]. Its forests, including areas buffering Kerinci Seblat National Park, Sumatra's largest reserve, harbor critically endangered wildlife such as the Sumatran tiger, Malayan tapir, and Sunda pangolin[35]. The province also boasts unique flora like the giant *Rafflesia arnoldii* that blooms in its rainforests. West Sumatra's communities have deep traditions of environmental stewardship. The Minangkabau people manage land under customary (*adat*) law, viewing

[34] naturalworldheritagesites.org
[35] fundforests.org

forests as "*tanah ulayat*" (ancestral domain) to be preserved for future generations[36]. Local beliefs reinforce conservation: for instance, tigers are respectfully called "*inyiak*" (elders), regarded as guardians of the forest in local lore. In the Mentawai Islands, indigenous clans retain extensive ethnobotanical knowledge, utilizing over half of all plant species on Siberut Island for food, medicine and ritual needs[37]. This strong presence of IPLCs and their traditional knowledge provides a vital foundation for ABS, ensuring genetic resources are used with respect for local wisdom and that benefits flow back to communities. West Sumatra also offers promising bioeconomy value chains. The province leads Indonesia in producing gambier (*Uncaria gambir*) – a plant extract used in tanning and herbal medicine – contributing up to 80–90% of national supply[38]. Communities harvest non-timber products like wild honey and rattan, and many villages have secured 35-year social forestry permits to manage state forests sustainably. Local institutions further enable ABS: NGOs and authorities help communities secure forest management rights, reducing conflicts and empowering local stewards[39]. By building ABS mechanisms onto this existing framework of *adat* governance and social forestry, West Sumatra can ensure that genetic resource use yields fair benefits, robust safeguards, and community empowerment. These conditions make West Sumatra a strategic choice for piloting Nagoya Protocol ABS mechanisms.

West Kalimantan Province stands out as a biodiversity-rich province well-suited for an ABS project under the Nagoya Protocol. It encompasses vast tropical forests, peatlands, and wetlands that harbor extraordinary genetic resources and endemic species. In Kapuas Hulu, for example, a UNESCO-recognized biosphere reserve links two national parks and sustains hundreds of species of fish, birds and mammals, including rare hornbills and giant Rafflesia flowers, while also providing water, food and livelihoods for Indigenous Dayak communities deeply tied to the land[40]. The province's peat swamp forests are home to endangered orangutans and proboscis monkeys alongside rare wetland flora[41], underscoring the high ABS-relevant value of its ecosystems. West Kalimantan is also home to Dayak and Malay peoples whose traditional knowledge (TK) of medicinal plants and sustainable forest use has been practiced for generations[42]. Recent efforts to document this TK highlight its richness and the urgency of preserving local wisdom and culture[43]. The province shows strong bio-economy potential, with indigenous communities already engaging in sustainable biotrade initiatives. For instance, local cooperatives are working with partners to develop high-value products from underutilized forest plants (like fruits and herbal medicines), directly involving farmers and respecting customary practices[44]. Indonesia's government also emphasizes such bioprospecting noting that traditional *jamu* herbal medicine is a key commodity to develop for community benefit[45]. Institutionally, West Kalimantan has piloted community-based forestry and conservation schemes. Village Forest (*Hutan Desa*) permits have been used to secure communal land rights and encourage equitable resource management, and in 2022 a 2,097-hectare Dayak-managed forest was officially recognized as an Indigenous Community Conserved Area (ICCA) affirming customary stewardship[46]. These governance frameworks, combined with strong community interest in fair benefit-sharing (e.g., a biodiversity credit program that returns at least 60% of revenue to local people), underscore West Kalimantan's readiness for an ABS initiative that links its outstanding biodiversity with equity, safeguards, and sustainable development for local communities.

West Papua Province is recognized as an ABS priority due to its extraordinary biodiversity and cultural heritage. Its territory lies in the New Guinea region, which holds roughly half of Indonesia's biodiversity[47]. With 35 million hectares of largely intact forests forming one of the world's largest remaining rainforests alongside the rich marine ecosystems of the Bird's Head Seascape, West Papua is an epicenter of terrestrial and marine life. The province's coral reefs harbor more reef fish and coral species than anywhere else on Earth[48], while its rainforests host thousands of plant species (including over 2,000 orchids) and countless endemic fauna. New species are still being discovered, underscoring West Papua's immense genetic resource potential[49]. Equally important is West Papua's human diversity: it is home to 276 indigenous ethnolinguistic groups who hold intergenerational traditional knowledge of

[36] fundforests.org
[37] ethnobotanyjournal.org
[38] researchgate.net
[39] iucn.nl
[40] news.mongabay.com
[41] gcbc.org.uk
[42] phcogj.com
[43] sciencedirect.com
[44] kabupatenlestari.org
[45] kalsel.antaranews.com
[46] tropenbos.org
[47] wri-indonesia.org
[48] divessi.com
[49] en.antaranews.com

local flora and fauna for food, medicine and materials[50]. These Indigenous and local communities (IPLCs) play a central role in managing biodiversity, and their engagement and knowledge are vital for successful ABS implementation. West Papua also demonstrates strong institutional commitment to conservation and equity. In 2015 it was declared Indonesia's first "Conservation Province," with a multi-stakeholder working group (supported by NGOs) to implement its conservation mandate[51]. The provincial leadership, through the Manokwari Declaration of 2018, pledged to keep at least 70% of land under forest cover, signaling alignment of local governance with Nagoya Protocol objectives. Yet West Papua remains one of Indonesia's least developed regions, and many Indigenous Papuans have been historically marginalized. An ABS framework is thus critical to ensure that use of genetic resources directly benefits local communities, safeguards customary rights, and supports sustainable livelihoods[52]. These factors make West Papua a clear priority for ABS implementation under the Nagoya Protocol.

Incremental Cost Reasoning

Business-as-Usual (BAU) Scenario: Indonesia is a megadiverse country with immense genetic resources and rich traditional knowledge (TK) held by indigenous and local communities. The country ratified the Nagoya Protocol in 2013 via Law No. 11/2013, signaling commitment to fair ABS) In the BAU scenario (without GEF support), Indonesia relies on existing national programs and legal provisions for biodiversity and cultural heritage. Various laws (e.g., on conservation, forestry, intellectual property) touch on aspects of genetic resources and TK protection, and institutions like the Ministry of Environment, Ministry of Forestry, and research agencies carry out biodiversity conservation efforts. These baseline initiatives demonstrate recognition of the value of Indonesia's biological and cultural assets: for example, the government emphasizes protecting medicinal plant diversity through bioprospecting and stronger regulations[53]. However, these efforts remain fragmented and are not specifically tailored to a functional ABS regime or to emerging global arrangements on DSI-related benefit sharing. Under BAU, Indonesia lacks a dedicated ABS framework and faces significant implementation barriers. Aside from the Nagoya Protocol ratification law, there is no specific ABS regulation; instead, a patchwork of existing laws is being applied to ABS issues[54] with no clear guidance on how DSI should be governed or how national measures will interface with the new multilateral mechanism for DSI benefit-sharing. Institutional roles are unclear and unassigned: multiple agencies are involved (environment, forestry, agriculture, intellectual property, etc.), but key ABS functions (e.g., permitting, compliance monitoring) are not clearly mandated to any one body. This leads to slow or inconsistent ABS implementation. Stakeholder awareness of ABS is low, and capacity is limited: for example, many researchers, companies, and even local officials have scarce knowledge of ABS procedures and fair benefit-sharing requirements[55]. Consequently, few if any ABS agreements are happening on the ground, utilization of genetic resources (for research or product development) often proceeds without formal ABS permits or benefit-sharing, due to cumbersome processes or lack of awareness. There is also minimal tracking or enforcement: even when access permits are granted, compliance (e.g., ensuring benefits are shared, including from downstream DSI use) is not effectively monitored, leaving uncertainty about whether communities receive any benefits. In summary, the baseline scenario is one where Indonesia's biodiversity and traditional knowledge continue to be used in ad-hoc ways, with limited equitable sharing of benefits. Without additional support, national authorities have very limited capacity to ensure proper ABS implementation and fair benefit distribution in practice. This means that opportunities for communities to benefit are missed, risks of biopiracy persist (including misuse of DSI), and the potential contribution of ABS to biodiversity conservation remains unrealized under BAU.

Incremental cost reasoning (GEF additionality): This project is fully aligned with GEF-8 strategic priorities for biodiversity. The GEF-8 Biodiversity Focal Area Strategy (2022–2026) emphasizes globally significant biodiversity conserved and sustainably used, which includes supporting countries to implement ABS and the Nagoya Protocol, including sharing of benefits from the use of DSI. In fact, under GEF-8 a notional amount of $82 million (about 4.3% of the biodiversity focal area budget) is programmed specifically to support the implementation of the Nagoya Protocol (and Cartagena Protocol)[56], as well as associated global arrangements on DSI benefit-sharing. The CATALYST project falls under this programming: it will advance GEF-8 Objective 2, which deals with fostering ABS and biosafety. GEF financing will fund the incremental measures needed to overcome the gaps in the BAU scenario and deliver global benefits. Under the incremental cost principle, GEF grants cover the "additional" costs of transforming a purely national or baseline initiative into one that generates global environmental benefits. In the context of CATALYST, the baseline scenario has some national-benefit activities (e.g., general biodiversity programs, cultural heritage preservation), but these are insufficient to establish a working

[50] wri-indonesia.org
[51] divessi.com
[52] divessi.com
[53] pdfs.semanticscholar.org
[54] doaj.org
[55] open.unep.org
[56] cbd.int

ABS system that yields global biodiversity gains. GEF support is therefore crucial to bridge this gap. The incremental reasoning is that, without GEF, Indonesia would not invest in or coordinate the full suite of actions required to implement ABS effectively, those actions lie beyond the scope of business-as-usual due to financial, technical, and institutional barriers. For example, the current baseline programs and budgets are insufficient to fulfill Indonesia's commitments under the Nagoya Protocol and to develop coherent national measures on DSI (a situation observed in other countries as well). The GEF grant provides the catalytic funding needed to enact policy reforms, capacity building, and on-ground pilots that the government alone could not achieve with existing resources.

The GEF role goes beyond funding gaps: it brings technical expertise, stakeholder convening power, and a mandate for innovation that can transform the ABS landscape. Incremental GEF support will enable effective changes in the institutional and policy framework as well as capacity levels for ABS in Indonesia including new competencies on DSI governance. Concretely, GEF funds will complement and build on baseline efforts by: expanding their reach (to a wider range of stakeholders and regions than the baseline could cover), ensuring actions are coordinated and harmonized nationwide, and introducing best practices from global ABS experiences. This injection of resources and know-how will help break the "stalemate" of fragmented BAU efforts. For instance, GEF financing allows the project to develop new ABS regulations with clear provisions on DSI, establish clear institutional mechanisms, and demonstrate ABS agreements in practice; these are transformative interventions that would not occur under BAU. GEF's involvement also signals high-level commitment, encouraging inter-agency collaboration and stakeholder buy-in that a standalone national program might not master. The result is a systemic change: with GEF, Indonesia can shift from an ad-hoc approach to a structured ABS regime that integrates conservation and development objectives. The GEF project is explicitly designed to complement ongoing initiatives and maximize outcomes through a coherent strategy. By the project's end, Indonesia should have the enabling environment for ABS that is self-sustaining: a transformation from the baseline situation of unmet potential. Moreover, the project is expected to generate models and lessons that can be replicated and scaled up. GEF support often leads to demonstration effects: Indonesia's ABS framework and pilot benefit-sharing deals can become examples for other countries and communities. Indeed, with the GEF-backed enhancements to the baseline, the positive impacts on ABS implementation will be tangible, and Indonesia's experience could eventually benefit other countries facing similar ABS and DSI governance challenges.

Global Environmental Benefits (GEBs): The project directly targets biodiversity conservation and sustainable use as global benefits deriving from effective ABS implementation. The project GEBs include:

- **Improved Management of Landscapes for Biodiversity and Sustainable Production:** at least 10,000 ha of tropical forest (outside PAs) in the West Sumatra, West Kalimantan, and West Papua Provinces under community ABS stewardship (2 ABS Agreements), covered by community TK/harvest protocols and conservation actions financed by benefit-sharing (GEF CI 4.1 and 4.4);
- **Avoided GHG emission:** at least 328,385 tCO_2e of avoided greenhouse gas emission as a result of sustainable management of tropical forest area of 10,000 ha covered by ABS agreements;
- **Total number of direct project beneficiaries:** at least 2,000 people (50% women), including at least 1,000 IPLCs in the West Sumatra and West Papua Provinces benefiting from local ABS initiatives (GEF CI 11).

Expected Co-Benefits of the project

Based on the *STAP Information Brief on Refining the Tracking of Co-Benefits in Future GEF Investments*[57], the co-benefits of this project in Indonesia can be classified into **prerequisite co-benefits and incidental co-benefits**. Below is a brief assessment of the project's co-benefits:

Prerequisite Co-benefits (Essential for Durable GEBs):

- Harmonized ABS regulations including provisions for DSI, clear mandates, and an OSS-ABS with provincial front offices reduce transaction costs and make compliance predictable, conditions required for durable ABS uptake;
- FPIC/MAT-ready biocultural community protocols, TK documentation, and community ABS funds enable informed consent and equitable benefit-sharing that are necessary for benefits to reach rightsholders and sustain conservation incentives;

[57] Stafford Smith, M., & Metternicht, G. (2022). *Refining the tracking of co-benefits in future GEF investments: A STAP Information Brief.* Scientific and Technical Advisory Panel (STAP) to the Global Environment Facility (GEF), Washington, DC. Available at: https://stapgef.org

- Company ABS compliance plans and IRCC-backed contracting practices are enabling conditions for lawful access and revenue flows that underpin GEBs;
- An ABS knowledge system and public dashboard with a financed national roadmap create feedback loops and budget follow-through as a prerequisites for system change and replication.

Incidental Co-benefits (Additional Value of the Investment):

- ABS pilots can stimulate community enterprises (e.g., TK-based products, sustainable sourcing services), creating jobs beyond project sites;
- Women's leadership in community funds and value chains may spill over to other civic/economic domains;
- Safer harvesting/processing protocols and reduced illicit collection lower injuries/exploitation risks; potential public-health benefits via regulated supply chains;
- Open ABS knowledge artifacts (templates, dashboards) can support other environmental compliance regimes and research ethics;
- Reduced duplication among agencies, improved data-sharing culture.

Project Outputs (direct project products and services)

Brief description of the project Outputs is provided below:

Component 1: Strengthening National ABS Policy and Implementation Framework

Outcome 1: National ABS legal, policy, and institutional frameworks are strengthened and harmonized

Output 1.1. Priority ABS policies, regulations, guidelines, and standard operating procedures developed, harmonized between government agencies, and adopted

Under this output, the project will support the Government of Indonesia in developing and harmonizing essential ABS regulations, guidelines, and standard operating procedures (SOPs) to operationalize the Nagoya Protocol and relevant CBD decisions on digital sequence information (DSI), including alignment of national DSI-related ABS measures with the multilateral mechanism for the fair and equitable sharing of benefits arising from the use of DSI on genetic resources established by CBD COP 15 and operationalized by CBD COP 16. Building on analyses of legal gaps, the project will identify priority regulatory instruments needed to establish legal clarity across sectors. This will include a comprehensive ABS regulation (e.g., a Government or Ministerial Regulation) that sets out procedures for access permits, prior informed consent (PIC), and mutually agreed terms (MAT) for benefit sharing, covering both physical genetic resources and associated DSI. It will also encompass guidelines and SOPs for consistent implementation, for example, detailed guidance on obtaining PIC from indigenous/local communities, templates for MAT agreements (building on the 2018 decree's PIC/MAT templates), that include standard clauses on the generation and use of DSI, and clear procedures for compliance monitoring and enforcement. For DSI, the project will support development of national policy, legal, and procedural guidance that clarifies how Indonesia's ABS framework applies to the generation, use, documentation, and reporting of DSI associated with genetic resources, while ensuring consistency with the CBD multilateral mechanism and avoiding duplicative requirements between national and multilateral benefit-sharing arrangements. The guidance will aim to provide legal certainty for users and providers, support transparency and traceability, and clarify the respective roles of national authorities and users in relation to the Cali Fund and related future CBD decisions. Where existing rules exist in sectoral silos (such as a 2018 regulation covering wild genetic resources), the project will harmonize and update these to ensure uniform standards nationwide.

Crucially, the new or revised regulations will be developed through a participatory process involving all relevant ministries and stakeholders, so that ABS procedures are workable and accepted across sectors (environment, agriculture, marine, health, etc.). The Output resources will be devoted to expert technical assistance and multi-stakeholder consultations to draft these legal instruments. The focus will be on cost-effective measures, for instance, updating existing laws and filling specific gaps rather than creating an overly complex new framework. By the end of the project, Indonesia will have in place a robust ABS legal framework, aligned with Nagoya Protocol obligations, that clearly defines access requirements, benefit sharing obligations (including for DSI), and roles/responsibilities of different agencies. This directly contributes to national ABS compliance by providing the legal backbone for enforcing fair benefit-sharing across all genetic resource sectors. It also harmonizes policies at national and provincial levels, creating legal certainty for users (researchers, companies) and providers (local communities, resource managers) of genetic resources. In turn, this strengthened legal framework ensures that benefits from Indonesia's biodiversity are transparently shared, reinforcing conservation incentives and sustainable use of genetic resources nationwide.

Crucially, the new or revised regulations will be developed through a participatory process involving all relevant ministries and stakeholders, so that ABS procedures are workable and accepted across sectors. The regulatory review and drafting process will also take into account the evolving international framework under the BBNJ Agreement, so that Indonesia's national ABS measures promote compatibility and institutional synergies, where relevant, with future national approaches to marine genetic resources and related DSI in areas beyond national jurisdiction. By the end of the project, Indonesia will have in place a robust ABS legal framework, aligned with Nagoya Protocol obligations and evolving international DSI developments, that clearly defines access requirements, benefit-sharing obligations, roles and responsibilities of different agencies, and the interface between national measures and the multilateral DSI mechanism.

Output 1.2. ABS Competent National Authorities are officially designated, and National ABS Steering Committee established to coordinate and govern Indonesia's ABS implementation across key ministries, including environment, agriculture, economy, health, and relevant sectors

Output 1.2 will establish a clear institutional architecture for ABS implementation by identifying and empowering the appropriate agencies as Competent National Authorities (CNAs), and by strengthening a cross-sectoral ABS Steering Committee. Currently, Indonesia's ABS governance is fragmented: no single authority has been formally designated as the ABS CNA; instead, multiple ministries (Environment, Forestry, Agriculture, Marine Affairs and Fisheries, Health) carry out ABS-related functions in their respective domains. This project will address that gap by helping the government formalize designation of one or more CNAs with clear mandates that encompass both physical genetic resources and associated DSI. Likely, the Ministry of Environment, as the national focal point for the Nagoya Protocol, will be confirmed as the lead CNA for overall ABS coordination. Additionally, sector-specific CNAs may be officially designated (e.g., Ministry of Agriculture for plant genetic resources for food, Ministry of Marine Affairs and Fisheries for marine genetic resources, etc.), to cover the breadth of genetic resources and associated traditional knowledge. These institutions will receive targeted support (training, staffing plans, and procedural development) to fulfill their roles, including processing access applications, granting permits, monitoring compliance, and overseeing reporting and benefit-sharing related to DSI.

In parallel, the project will formalize and support a national ABS Steering Committee (or similar coordination mechanism) that brings together all key institutional players. This multi-stakeholder committee comprising the CNAs, the national ABS focal point, other relevant ministries (e.g., Ministry of Research/BRIN for research permitting, IP and law authorities for legal compliance), as well as representatives of provinces and indigenous peoples, will serve as the central coordination and decision-making body for ABS, including coordination on policies and procedures for DSI. With project support, clear terms of reference will be developed for the Committee, and it will be equipped to guide ABS policy implementation and resolve inter-sectoral issues. The project will fund regular committee meetings and a small secretariat (housed in the lead CNA) to ensure the committee's operations are sustained. This output's contribution to the Outcome 1 is critical: it establishes a cohesive institutional framework across sectors, ending the siloed approach to ABS. A designated set of CNAs, working under an active ABS Steering Committee, will ensure that ABS rules are implemented uniformly, whether the genetic resource is a wild medicinal plant, an agricultural seed, a marine micro-organism, or a sequence dataset derived from them. It strengthens compliance by clarifying "who does what" both at national and provincial levels and by providing a platform for these actors to harmonize their decisions.

Output 1.3. ABS One Stop System (OSS-ABS) is established and integrated with ABS Clearing-House (ABS-CH) to streamline end-to-end ABS workflows, enable data sharing with checkpoints, and provide transparent tracking/ reporting for users, CNAs, and communities

This output will design and implement the One Stop Service ABS system (OSS-ABS): a user-friendly, online platform to handle ABS applications, permits, and data, integrated as much as possible with Indonesia's existing e-governance infrastructure. The need for such a system is evident: while an online application process for ABS was envisioned in the past, it remains not yet operational, leading to cumbersome, paper-based procedures spread across different agencies. With limited resources available, the project will prioritize a cost-effective solution by leveraging Indonesia's national Online Single Submission (OSS) system for business and research permits. Rather than building a brand-new standalone platform (which would be expensive to develop and maintain), the project will work with the Investment Coordinating Board (BKPM) and related e-government departments to integrate ABS permitting into the existing OSS framework. This could involve creating a dedicated ABS module or interface within OSS that routes applicants through the necessary steps (from online submission of access requests, to securing PIC and MAT documentation that explicitly cover potential DSI generation and use, to permit issuance by the relevant CNA). If full OSS integration proves unfeasible,

the project will support a lean, standalone ABS portal that interfaces with national systems as needed, but the preferred and most viable option is integration, to ensure long-term sustainability within government systems.

The OSS-ABS system will be developed with stakeholder input to make it practical and transparent. For example, it will include clear information on required documents, permit status tracking, and links to guidelines so that researchers or companies (domestic and foreign) can understand the process, including their obligations related to uploading or using DSI. It will also connect with the ABS Clearing House to publish permits and inform the global community of Indonesia's ABS measures. The result will be a one-stop-shop ABS system that markedly improves efficiency and compliance: applicants will have a single entry point regardless of which sector's genetic resource they seek, and the system will automatically involve the correct authorities (CNA) behind the scenes. This reduces duplication and uncertainty, thereby harmonizing ABS administration across sectors. Importantly, the OSS-ABS will also allow better monitoring and record keeping of genetic resource utilization and benefit sharing agreements nationwide. By making ABS permitting easier to navigate and embedding DSI-relevant information in workflows, this output encourages more users to follow legal channels (enhancing compliance) and enables authorities to track and enforce benefit-sharing obligations.

Output 1.4. Provincial ABS front offices are established in three target provinces as the single window for communities, researchers, and companies to facilitate and implement ABS agreements

To ensure the national ABS framework is effective on the ground, Output 1.4 will establish provincial ABS front offices in the two target provinces: West Sumatra, West Kalimantan, and West Papua as pilot models. These front offices are essentially local ABS facilitation and service units, embedded in existing provincial institutions, that bridge national policy with local stakeholders. The choice of West Sumatra, West Kalimantan, and West Papua reflects their rich biodiversity and strong community involvement in natural resource management. By piloting ABS front offices here, the project addresses identified gaps in decentralized ABS support: currently, local authorities and resource owners often lack awareness or capacity to engage in ABS processes, including how to handle DSI arising from research on local genetic resources, leading to weak compliance at the local level.

Each provincial ABS front office will be structured within a suitable host institution to minimize new bureaucracy and cost. For example, the front offices could be housed in the provincial Environment and Forestry Agency or the local Conservation Agency (BKSDA), or a local university center of biodiversity research in partnership with the government. The project will equip these offices with a small team (potentially one coordinator and support staff) and the necessary training to carry out several key roles: outreach and awareness-raising on ABS regulations among local communities and businesses; serving as the first point of contact for anyone seeking to access genetic resources in the province; facilitating the PIC process by connecting researchers or companies with the rightful providers (e.g., indigenous community leaders or local permit holders); assisting in negotiating MAT and ensuring benefit-sharing agreements reflect local needs and explicitly address potential generation and use of DSI; and liaising with the national CNAs and ABS Steering Committee to elevate any issues or approvals needed. Essentially, the front offices function as ABS service delivery hubs at the community level, translating national ABS procedures into local action. They will also coordinate with other local partners: for instance, the front offices will collaborate with indigenous people organizations, conservation NGOs, local forestry co-operatives, or village administrations that manage communal resources, ensuring that benefits from both physical genetic resources and associated DSI are understood, claimed, and shared fairly.

Component 2: ABS Capacity Building with focus on Government Agencies, Private Sector, and IPLC

Outcome 2: Increased ABS capacity and stakeholder readiness for inclusive ABS implementation through outreach, capacity development for Government Agencies, Private Sector, and IPLC

Output 2.1. Authorities and institutions are trained on Indonesia's ABS regime, including PIC/MAT procedures, TK/FPIC safeguards, OSS-ABS use, IRCC/ABS-CH workflows, checkpoint/compliance duties, post-access reporting, service standards, and basic DSI/data stewardship

Under Output 2.1, the project will implement a comprehensive capacity building program for national and provincial authorities to operationalize Indonesia's ABS framework. A series of modular trainings and workshops will be conducted to equip officials from key ministries and provincial agencies with the knowledge and tools needed for inclusive ABS implementation. The curriculum will cover the full spectrum of ABS procedures: from administering PIC and MAT in line with Indonesia's 2018 ABS regulations (which provide standard PIC and MAT templates), to upholding safeguards for traditional knowledge and Free, Prior and Informed Consent (FPIC) when engaging Indigenous peoples. Participants will be trained to navigate the Online Single Submission ABS platform (OSS-ABS) - Indonesia's one-stop e-permitting system, including how to process access permit applications and link national permit records to the ABS Clearing House to generate Internationally Recognized Certificates of Compliance (IRCC). Emphasis will be placed on compliance monitoring and service standards, such as meeting the 60-working-day permit processing timeline stipulated by

national policy. The program will also introduce emerging topics like Digital Sequence Information (DSI), ensuring authorities understand how genomic data sharing can bypass traditional ABS agreements and why measures are needed to address benefit-sharing for DSI.

This training initiative is tailored to Indonesia's specific institutional needs and will strengthen both national and sub-national capacities, including in target provinces such as West Sumatra, West Kalimantan, and West Papua. Training sessions will foster coordination among key ABS agencies and provincial offices, clarifying roles and standardizing ABS implementation procedures across the country. Where provincial governments and local conservation agencies have limited ABS experience, the project will deliver on-site mentoring and create simple ABS "how-to" guides adapted to local contexts. By the end of the program, a network of well-trained officials and ABS focal points will be in place nationwide, supported by standardized curricula, Training-of-Trainers materials, government-hosted knowledge resources, and institutional arrangements that allow responsible national and provincial institutions to continue and replicate ABS training beyond project completion. These measures will ensure that Indonesia's authorities are ABS-and DSI-ready and able to efficiently handle access applications, secure PIC/MAT with providers, and enforce compliance, thereby markedly increasing stakeholder readiness for inclusive ABS implementation in line with the project outcome.

Output 2.2. Capacity building program for local communities and Indigenous Peoples in target provinces to develop FPIC-ready community protocols, document and safeguard traditional knowledge, form ABS negotiation teams, and manage ABS agreements

Output 2.2 will establish a targeted capacity building program at the community level, focusing on 6-8 Indigenous Peoples and Local Communities (IPLCs) to be selected during the project preparation phase (PPG). A cornerstone activity will be the development of community FPIC protocols: each participating community will be guided to articulate its own Free, Prior and Informed Consent procedures for genetic resource access and for any generation or use of DSI, in accordance with customary laws and the Nagoya Protocol. This will involve training community representatives in documenting their decision-making processes, defining conditions for access to their genetic resources or associated traditional knowledge, and establishing clear roles (e.g., forming ABS committees or appointing community focal points). In tandem, the program will introduce tools for safeguarding traditional knowledge (TK) and discussing how TK-based research may lead to DSI that is stored in national or international databases. This includes training on documenting TK in a confidential or rights-based manner (such as community biodiversity registers or oral record keeping), and legal literacy sessions on intellectual property and protection against misappropriation. Another key element is building negotiation and agreement management skills: through simulations and role-playing exercises, community leaders will learn how to interface with researchers or companies, negotiate fair benefit-sharing terms, and manage ABS agreements over time with model clauses that explicitly address DSI. They will also receive simple contract templates and mentorship in deal-making, so they can confidently handle steps from initial contact and Letter of Intent through to concluding MAT with benefit sharing provisions. All training materials will be culturally appropriate and delivered in local languages where needed, ensuring inclusivity (with special efforts to involve women and youth knowledge holders). Where feasible, small grants or seed funding will be provided to these communities to support the establishment of their FPIC protocols or to host village-level ABS/DSI consultations. The enhanced capacity at the community level means traditional knowledge holders can enter benefit sharing agreements confidently and equitably. This inclusive approach not only safeguards community interests but also contributes to the broader outcome of increased national ABS capacity as empowered communities are essential partners for successful, inclusive ABS implementation.

Output 2.3. Private sector engagement and ABS awareness program is launched to onboard companies and research users to OSS-ABS, build ABS compliance, and initiate a pipeline of LOIs that progress to IRCC-backed ABS agreements with communities.

Output 2.3 will roll out a private sector engagement and awareness initiative aimed at increasing the participation of companies and research institutions in Indonesia's ABS system. The project will design a multi-faceted strategy to inform, incentivize, and assist the private sector in complying with ABS regulations and emerging expectations on DSI benefit-sharing. This will begin with broad awareness-raising: national and regional ABS outreach forums will be convened for industries ranging from pharmaceuticals, biotechnology and cosmetics to agriculture and academia. These forums (and follow-up roadshow sessions) will explain the obligations and opportunities under the Nagoya Protocol and Indonesia's ABS laws in plain business language highlighting why legal access to genetic resources is beneficial (e.g., it provides legal certainty and access to Indonesia's rich biodiversity) and how non-compliance can pose reputational or legal risks. A key feature will be hands-on guidance in using the OSS-ABS one-stop system for ABS permits. The project will develop user-friendly guides and possibly an online helpdesk to walk companies through the application steps on Indonesia's electronic permitting portal, from submitting access requests to obtaining PIC/MAT with resource providers. Training workshops for R&D managers and legal compliance officers will cover how to integrate ABS and DSI due diligence into their R&D pipelines, for example, checking the ABS Clearing House for IRCC certificates or national requirements before utilizing genetic resources.

In addition to education, Output 2.3 will proactively facilitate partnerships between providers and users of genetic resources. The project will organize match-making events or roundtable dialogues where community representatives, research institutions, and companies can meet to explore collaboration. Without pre-selecting specific sectors, the initiative will remain open to all interested industries to ensure broad engagement. As an outcome, the project expects to broker the signing of several Letters of Intent (LOIs) between resource providers (such as the IPLC communities strengthened in Output 2.2 or national gene-banks/universities) and companies interested in accessing genetic materials and/or generating DSI. These LOIs will serve as preliminary commitments to negotiate ABS agreements and will outline the intent to share benefits, paving the way for formal ABS contracts that can be registered and result in IRCCs.

Component 3: Piloting ABS Agreements with Communities and Private Sector in two target provinces

Outcome 3: ABS-Agreements implemented in biodiversity-rich landscapes and seascapes, generating equitable benefit-sharing for IPLCs and informing policy scale-up

Output 3.1. ABS Opportunity Portfolios are developed for priority provinces and presented to private sector investors in Indonesia and abroad

Under this output, the project will develop ABS Opportunity Portfolios for the three pilot provinces (West Sumatra, West Kalimantan, and West Papua) to showcase their rich genetic resources and associated digital sequence information DSI potential and attract sustainable investments. Each portfolio will catalog the province's genetic resource use potential, mapping biodiversity assets (e.g., high-value medicinal plants, endemic crops, or marine organisms) alongside associated traditional knowledge and community assets. For example, the target provinces contain roughly *half of Indonesia's biodiversity* and offer untapped resources from their intact rainforests and coral-rich seascapes, stewarded by indigenous people communities with deep biocultural knowledge. By capturing these assets and the provinces' unique investment appeal, the portfolios will be packaged to engage private sector audiences. They will be presented in investor forums and partnership roadshows to stimulate interest from industries like pharmaceuticals, cosmetics, agriculture, and research institutions seeking equitable bioprospecting and sequence-based R&D opportunities.

Developing these portfolios will be a participatory and strategic. Stakeholder workshops will ensure that IPLCs articulate their traditional knowledge and livelihood priorities, embedding equity into each opportunity profile. The open-ended nature of the portfolios means they remain flexible and dynamic, allowing new leads, genetic resources, or DSI-related opportunities to be added as discoveries emerge or market trends shift. Emphasis will be placed on strategic feasibility (selecting opportunities that are scientifically and economically viable) and practical implementation plans, such as outlining required research, sustainable harvesting protocols, and potential ABS agreement models for each prospect. By the end of this output, West Sumatra, West Kalimantan, and West Papua will each have an ABS Opportunity Portfolio that not only guides the brokering of pilot deals under Output 3.2 but also serves as a demonstration tool for scale-up, informing other provinces and national policymakers on how to systematically unlock biodiversity-based investments while safeguarding community interests.

Output 3.2. Pilot ABS agreements based on PIC/MAT (IRCCs issued) are developed, signed and implemented between IPLCs and Private Sector in priority provinces with benefits reinvested in communities and biodiversity conservation

Output 3.2 focuses on translating the identified opportunities into concrete ABS agreements in West Papua, West Kalimantan, and West Sumatra, through a facilitated brokering process and strong institutional support. The project will assist in negotiating and establishing at least one pilot ABS agreement per province between IPLCs and interested bioprospecting partners (e.g., a domestic or international company or research entity), fully compliant with the Nagoya Protocol and explicitly covering both physical genetic resources and any DSI generated from them. Each agreement will secure PIC and MAT from the community, and will be formalized by national authorities to obtain an IRCC in the ABS Clearing House. This ensures the agreements are legally recognized and transparent. Given the diverse community-business contexts in the pilot provinces, the project will tailor its brokering approach: for instance, a pilot might involve a coastal indigenous community partnering with a cosmetics firm for marine genetic resources, while another might see an agro-forest community working with a pharmaceutical researcher on medicinal plants. Each scenario will address legal and technical feasibility from clarifying land and resource rights under Indonesia's ABS framework, to conducting bio-prospecting research assessments to demonstrate that ABS can be implemented across different ecosystem types (forest, marine) and partnership models. Throughout, there is a strong emphasis on equitable benefit-sharing: the agreements will stipulate that monetary benefits (like royalties or milestone payments), including contributions linked to products or research outcomes derived from DSI, and non-monetary benefits (such as technology transfer, training, or infrastructure) are reinvested in community development and

conservation. This might include community-managed funds for education, healthcare, or habitat protection, ensuring that benefits directly bolster local wellbeing and the sustainability of the genetic resources.

During the PPG, the project will assess whether existing Indonesian environmental finance mechanisms, particularly BPDLH/iBioFund, can serve as suitable channels for managing, tracking, and reporting ABS-related monetary benefits generated through pilot ABS agreements. This assessment will examine legal mandate, fiduciary capacity, eligibility of ABS-related revenues, ability to earmark and report benefit flows for IPLCs and biodiversity conservation, and potential integration with OSS-ABS, PIC/MAT agreements, IRCC reporting, and community-level benefit-sharing arrangements. Where feasible, the project will support the adaptation of existing mechanisms through ABS-specific procedures, benefit-tracking templates, reporting protocols, and pilot benefit-flow arrangements, rather than creating a new standalone fund. This approach will ensure that benefit-sharing arrangements are institutionally grounded, financially accountable, and scalable within Indonesia's existing environmental finance architecture.

To make these pilot agreements a success, the project will provide robust institutional support and capacity building. A portion of the Component 3 budget is dedicated to engaging legal experts, ABS facilitators, and scientific advisors who will guide both communities and companies through the negotiation and permitting process including crafting DSI-specific clauses. Capacity building activities (trainings, mentorship) will enable IPLCs to actively participate in drafting contracts and in decision-making on benefit-sharing arrangements. Where possible and practical, the project will integrate existing Indigenous Peoples governance into such agreements and ensure security of tenure and territories of Indigenous Peoples and local communities in these pilot agreements. Simultaneously, the project will coordinate with relevant government bodies, such as the national ABS focal point and provincial authorities, to streamline approval procedures and to address any regulatory gaps that could hinder implementation. By focusing on practical implementation, the project will establish mechanisms for ongoing support to the ABS partnerships, including monitoring compliance with the agreement terms and adaptive management if issues arise. The strategic selection of pilot cases in three high-profile provinces adds significant demonstration value: once the ABS agreements are operational (with IRCCs serving as proof of legal compliance), the lessons learned will be documented and shared to inform policy scale-up. In sum, Output 3.2 delivers tangible ABS agreements that generate equitable benefits for IPLCs in West Sumatra, West Kalimantan, and West Papua and, while providing a practical proof-of-concept to encourage broader adoption of ABS agreements in other biodiversity-rich landscapes and seascapes, thereby directly contributing to the project's outcome of demonstrating ABS as a viable and scalable mechanism for biodiversity-based development.

Component 4: ABS Knowledge Management and Scaling Up

Outcome 4: National ABS knowledge management system captures and shares lessons from pilots and agencies for effective scaling up of genetic benefit sharing

Output 4.1. Established national ABS knowledge management system sharing lessons and best practices (connected to ABS One Stop System (Output 1.2))

Under this output, the project will develop and operationalize a national ABS knowledge management system (KMS) to capture, organize, and disseminate lessons learned, best practices, and data from all project components. The KMS will be hosted on an existing government platform, such as the Ministry of Environment portal or the national R&D agency (BRIN) system, to ensure institutional ownership and long-term sustainability. It will be fully integrated with the OSS-ABS online permitting system established under Output 1.2, creating a seamless link between the ABS regulatory process, DSI-related reporting, and knowledge sharing. Through this system, information from pilot ABS agreements, capacity building programs, and policy development activities will be centralized and made accessible to stakeholders nationwide. Users (government agencies, researchers, private sector, and communities) will be able to access case studies, guidelines, templates, and up-to-date data on ABS transactions and associated DSI practices, fostering a community of practice around genetic resource benefit sharing.

The KMS is designed to be interactive and user-friendly, encouraging ongoing contributions from project partners to continually update content, and it will incorporate gender-disaggregated data while highlighting women's successes in ABS to ensure gender-responsive knowledge sharing. Specific sections of the KMS will document Indonesia's evolving approach to DSI (e.g., national guidance, model clauses, links to multilateral DSI mechanisms), providing a reference point for officials and users. By embedding the KMS in a government-owned platform and training staff for its maintenance, the project ensures the system's institutional feasibility and longevity beyond its lifespan aligning with the GEF's emphasis on capturing and disseminating project lessons for wider impact. The system will also interface with the international ABS Clearing House – a key tool for transparency and compliance under the Nagoya Protocol while building on the government's ongoing efforts to develop a national ABS clearing-house platform.

Output 4.2. National ABS Roadmap published providing a costed 5–10-year plan to scale ABS nationwide

Output 4.2 focuses on the participatory development and publication of a National ABS Roadmap – a strategic plan guiding Indonesia's ABS implementation over the next 5 to 10 years. This roadmap will be costed and will detail a balanced suite of actions spanning policy and legal reform, institutional strengthening, community capacity building, and enhancement of digital infrastructure for ABS, including governance of DSI. It will draw on lessons from the project's pilot activities and stakeholder consultations to ensure that proposed interventions are grounded in practical experience and successful approaches. For instance, the roadmap is expected to outline necessary updates to ABS regulations and guidelines, define how Indonesia will integrate DSI into its national ABS framework and align with the emerging multilateral mechanism and global fund for DSI benefit-sharing, establish clear institutional roles, and recommend ongoing capacity development programs for communities and local authorities to negotiate and manage ABS agreements. It will also include plans to expand and sustain systems like OSS-ABS and the KMS nationwide, ensuring digital tools support ABS permit processing, DSI-related reporting, and transparency as the program scales.

The roadmap will be developed through an inclusive, gender-responsive process, with national and local government agencies, IPLCs, women's groups, academic experts, and private sector representatives actively involved in consultations and decision-making. Their input will shape a plan with broad buy-in that addresses the needs of both users and providers of genetic resources and associated DSI. By costing out the roadmap's activities and identifying funding sources, the document will provide a realistic implementation pathway and enable the government to mobilize resources for ABS beyond this GEF project.

M&E Framework

Output 5.1. The project's Monitoring and Evaluation (M&E) system, Gender Action Plan and Environmental and Social Safeguards are implemented

Under this Output the project will develop and implement a participatory and gender- and youth-responsive M&E framework in accordance with the Results-Based Management (RBM) approach practiced by UNDP and GEF. For the M&E, the project will use Output, Outcome, and Impact (GEB) Indicators monitored on a quarterly and annual basis. M&E system will be applied to monitor the project effectiveness, check the project assumptions, and practice adaptive project management. It will actively ensure the participation of IPLCs, women, youth, and other vulnerable groups in the monitoring processes, ensuring their perspectives and feedback are integrated into adaptive management decisions. The M&E system will be a key tool for adaptive project management, enabling project teams to monitor project effectiveness, validate key assumptions, and adjust strategies based on real-time feedback. The findings from this continuous learning process will directly inform Outputs under Components 1-4 and will feed into the project adaptive management. Compliance with UNDP SES and GEF requirements will be assured through quarterly reviews and publicly accessible summaries for transparency and accountability.

Key Stakeholders

The project's Outputs will be delivered through structured engagement at national, provincial, and community levels to build a coherent, inclusive, and enforceable ABS system in Indonesia. Project concept preparation has involved transparent consultations to: (i) socialize the project objective/scope and solicit early inputs; (ii) surface implementation risks and co-develop mitigations; (iii) clarify institutional roles and partner contributions; and (iv) gauge co-financing and collaboration opportunities for scale-up. The following core stakeholder groups and roles are envisaged for project development and implementation:

Ministry of Environment and Forestry (MoE) (Implementing Partner; national ABS focal coordination): convenes the ABS Steering Committee; leads development and harmonization of regulations/SOPs (Output 1.1); oversees designation of Competent National Authorities (CNAs) and federal–provincial coordination (Output 1.2); embeds provincial compliance/monitoring within conservation and permitting workflows (Output 1.4); ABS Knowledge System and Roadmap (Outputs 4.1-4.2)

National Research and Innovation Agency (BRIN): national science lead and repository interface (Herbarium Bogoriense; MZB), scientific due-diligence for access requests, voucher/specimen curation, ABS training curricula, and piloting compliant research workflows (Outputs 2.1–2.3);

Ministry of National Development Planning (BAPPENAS): policy alignment with national plans; integration of ABS in planning, budgeting, and M&E frameworks; co-chairs inter-ministerial coordination where needed (Outputs 1.1–1.2);

Ministry of Finance (MoF) / Environmental Fund Management Agency (BPDLH): fiduciary policy and disclosure; ring-fences an ABS finance window; ensures audit/assurance and public reporting;

Ministry of Investment (BKPM) / OSS-RBA: integrates OSS-ABS into national risk-based licensing to streamline user compliance and data exchange with CNAs and checkpoints (Output 1.3);

Attorney General's Office (Kejaksaan Agung) & Judiciary (Mahkamah Agung): legal vetting support; guidance on sanctions; prosecution of offences triggered by checkpoint referrals and compliance audits; jurisprudence tracking (Outputs 1.1, 1.2, 1.4);

Directorate General of Intellectual Property (DGIP/DJKI): disclosure-of-origin integration and IRCC/permit-ID validation in IP filings; automated referrals for discrepancies (Outputs 1.3–1.4);
National Agency of Drug and Food Control (BPOM): due-diligence checkpoints for traditional medicines, health supplements, cosmetics, and biologics; alignment of product approvals and market surveillance with ABS compliance (Outputs 1.3–1.4);
Customs & Quarantine Authorities — **DG Customs & Excise (DJBC)** and **Badan Karantina Indonesia**: documentary checks for import/export of genetic resources and associated TK; holds/seizures/referrals; data exchange with OSS-ABS (Outputs 1.3–1.4, 2.1);
Line Ministries and Sector Agencies — **Ministry of Agriculture** and **Ministry of Marine Affairs & Fisheries (KKP)**: site-access verification; CNA/sectoral SOPs; compliance inspections; referrals via provincial services and PA/MPA authorities (Outputs 1.2–1.4, 2.1).
Provincial Governments, National Parks/Conservation Units and Marine Protected Areas (KKP): adoption and application of provincial SOPs; verification of PIC/FPIC and MAT; local grievance handling; performance reporting to national dashboards (Outputs 1.2–1.4, 2.1, 3.1-3.2);
Indigenous Peoples and Local Communities (IPLCs) and representative bodies (e.g., AMAN): representation in PIC/FPIC; community protocols/co-ops; TK documentation and confidentiality management; participatory budgeting for benefits (Outputs 2.2, 3.1–3.2);
National Standards/Metrology Bodies (BSN/KAN): ABS-relevant standards for documentation, data/IT integration, and quality assurance for digital processes and checkpoints (Output 1.3);
Universities, Herbaria, Museums, and Research Institutes (e.g., IPB, UI, UGM; Herbarium Bogoriense—BO; Museum Zoologicum Bogoriense—MZB): scientific due-diligence, curation, training curricula, and participation in ABS agreements where appropriate (Outputs 2.1–2.3, 3.1);
Private Sector & Industry Associations — GP Jamu (herbals), GP Farmasi (pharma), PERKOSMI (cosmetics), and relevant F&B/biotech associations: lawful access seeking; PIC/MAT negotiation; compliance reporting via OSS-ABS; co-financing of benefit flows; participation in awareness/knowledge campaigns (Outputs 2.2–2.3, 3.1, 3.2);
Civil Society & NGOs — e.g., Yayasan KEHATI and others: community facilitation for FPIC, TK protection support, independent monitoring, grievance accompaniment, and dissemination of knowledge products (Outputs 2.2, 2.3, 3.1, 3.2);

At the PPG stage, the project will prepare a full Stakeholder Engagement Plan detailing roles, engagement modalities, gender/disability inclusion measures, FPIC protocols, disclosure timelines, and feedback loops. Stakeholder empowerment will be anchored in shared decision-making, practical capacity, economic incentives, and transparent accountability. Alignment with the Nagoya Protocol and its compliance architecture will be explicitly mapped throughout the full project development and implementation.

Knowledge
Generating, curating, and using knowledge is central to operationalizing Indonesia's ABS framework and scaling up equitable benefit sharing nationwide. Across Components 1–4, the project will systematize lessons from policy and regulatory development, institutional strengthening, community FPIC/PIC processes, negotiation and implementation of ABS agreements, digitalization of ABS workflows (OSS-ABS and integration with the ABS Clearing-House), and multi-stakeholder engagement with companies and research users with a particular focus on how DSI is addressed in each of these areas. These lessons will be captured through the national ABS Knowledge Management System under Output 4.1, hosted on an appropriate government platform (e.g., MoE or BRIN) and connected to Indonesia's OSS-ABS and the ABS Clearing House established under the Nagoya Protocol. The system will act as a central hub for non-confidential information, tools, and training materials to support Government agencies, IPLCs, private sector, and researchers in implementing Indonesia's ABS regime for both physical genetic resources and associated DSI.

The project will generate a suite of core knowledge products tailored to Indonesia's context and aligned with Nagoya Protocol guidance and the ABS Clearing-House architecture:

- **Legal & Regulatory Toolkit for Indonesia:** Model ABS regulations and guidelines, SOPs for access permits within OSS-ABS, PIC/MAT and FPIC-ready templates adapted from existing Indonesian decrees, sample clauses for DSI and TK safeguards, compliance checklists for CNAs and provincial front offices, and data entry templates for linking OSS-ABS to the ABS Clearing-House.
- **Compliance & Enforcement Toolkit:** Practical guides for checkpoints (e.g., customs, research funders, ethics committees), chain-of-custody forms for biological samples, protocols for verifying OSS-ABS permits and IRCCs, standard forms for notices of non-compliance, and simple guidance for provincial inspectors and prosecutors on pursuing ABS and DSI violations.
- **Community & Traditional Knowledge Toolkit:** Culturally appropriate guides (in Bahasa Indonesia and local languages) for co-developing FPIC-ready community protocols, documenting and safeguarding TK (e.g., community biodiversity registers or TK archives), step-by-step PIC/FPIC manuals, benefit-sharing agreement templates that reflect Indonesian customary tenure and gender roles and include provisions for DSI, and guidance on managing community ABS funds.

- **Private Sector & Research User Package:** Business-oriented briefs explaining Indonesia's ABS requirements and expectations regarding DSI, OSS-ABS user guides, due-diligence checklists for R&D pipelines, FAQs on IRCCs and cross-border research, case studies of successful ABS partnerships in West Sumatra, West Kalimantan, and West Papua, and short guidance on integrating ABS compliance into corporate ESG and university ethics frameworks.
- **Case Studies & After-Action Notes:** Documentation of pilot deals and learning events (e.g., negotiation of IRCC-backed agreements with IPLCs that include DSI clauses, operation of provincial ABS front offices, dispute resolution, gender-responsive decision-making in communities), with clear lessons for national scale-up and replication in other provinces.
- **Training Curricula & Micro-Modules:** Modular training packages and e-learning content for: CNAs and OSS-ABS administrators; provincial front-office staff; IPLC leaders and youth; women's organizations; researchers; and company compliance teams. These will include Training-of-Trainers (ToT) materials so Indonesian institutions can continue capacity building after the project.
- **ABS Opportunity Portfolios (West Sumatra, West Kalimantan, and West Papua):** Curated, regularly updated profiles of provincial genetic resources, associated traditional knowledge, IPLC partners, and potential R&D/market applications, including summaries of PIC/FPIC protocols, risk and safeguards notes, and indicative ABS partnership models that highlight where DSI is likely to be generated and how DSI benefit-sharing can be structured; these portfolios will be hosted and versioned through the national ABS KMS to guide future deal-making and replication in additional provinces.

To ensure that knowledge leads to practice and scale-up, the project will deploy multiple sharing and visibility mechanisms tailored to Indonesia:

- **Provincial Learning Hubs and Hands-On Training:** In-person workshops in the two pilot provinces (West Sumatra, West Kalimantan, and West Papua) and other biodiversity-rich provinces, using the provincial ABS front offices as hubs for regular practice of ABS procedures, from opportunity profiling and PIC/FPIC consultations to monitoring benefit-sharing implementation.
- **National Webinars, Peer Exchanges, and ABS Community of Practice:** Regular virtual sessions convening MoE, BRIN, Agriculture, Marine Affairs and Fisheries, Health, the ABS Steering Committee, provincial agencies, IPLC representatives, universities, and private sector. These will focus on new regulations, OSS-ABS upgrades, DSI developments, and lessons from pilots, feeding directly into the National ABS Roadmap (Output 4.2).
- **Regional South–South Learning** (e.g., Southeast Asian Network on Access and Benefit-Sharing (SEAN-ABS), BioBridge Initiative (BBI)): Participation in Southeast Asian and broader South–South ABS platforms to exchange tools (such as Indonesian community protocol templates and OSS-ABS digital lessons) and learn from regional peers on issues such as DSI, TK protection, and IPLC benefit-sharing models.
- **International Outreach** (CBD/ World Intellectual Property Organization (WIPO)and ABS-CH): Sharing Indonesia's experience with integrating OSS-ABS, the national KMS, and provincial front offices at Nagoya Protocol COP/MOPs, CBD subsidiary bodies, WIPO discussions on genetic resources and TK, and via the ABS Clearing-House, positioning Indonesia as a regional leader in operationalizing ABS.
- **Digital Knowledge Repository Linked to OSS-ABS and KMS:** An open-access repository within the government-hosted ABS KMS, linked to OSS-ABS and the ABS Clearing-House, where all non-confidential toolkits, case studies, decision digests of the ABS Steering Committee, and training materials are uploaded. Offline/low-bandwidth options (downloadable packs, USB distributions) will ensure access for remote IPLC communities and local authorities.

By embedding knowledge generation and use across Components 1–4, and by institutionalizing the KMS and Roadmap within Indonesian government systems, the project will ensure that lessons from pilots translate into long-term improvements of ABS policy, practice, and benefit-sharing outcomes nationwide.

Project contribution to policy coherence

The GEF-funded CATALYST project in Indonesia is explicitly designed to align with and reinforce a suite of national policies across multiple sectors, ensuring a unified approach to biodiversity, traditional knowledge, and DSI governance. governance. By grounding its ABS interventions in Indonesia's legal framework, including the Biodiversity Conservation Law No. 5/1990, Ministry of Environment and Forestry (MoEF) Regulation No. 34/2017 on recognizing local wisdom and Indigenous rights, the National Science and Technology Law No. 11/2019, Ministry of Agriculture Regulation 37/2011 on plant genetic resources, and the national development plans (RPJMN) with blue/green economy strategies, the project creates coherence between environmental, social, and economic objectives while focusing on ABS and emerging DSI arrangements. This alignment fosters synergies among conservation, innovation, and sustainable use goals while managing trade-offs between resource use and biodiversity protection. For instance, CATALYST integrates traditional knowledge protection with scientific research protocols, so that the utilization of genetic resources and DSI for agriculture, health, or

industry complements biodiversity conservation and community livelihoods rather than competing with them. By proactively mapping its activities onto existing policy mandates, the project addresses fragmentation in policy implementation bridging gaps between conservation law, intellectual property rights, and development planning. In doing so, it minimizes the risk of contradictory or misaligned policies across sectors, thereby minimizing negative spillovers (such as unsanctioned bioprospecting or habitat loss driven by uncoordinated sectoral initiatives) that could undermine conservation outcomes. Overall, CATALYST's policy alignment ensures that domestic legislation and strategies mutually reinforce the Nagoya Protocol objectives, balancing domestic development priorities with international commitments, and laying a coherent foundation for an integrated ABS system.

CATALYST also enhances horizontal and vertical policy coherence by coordinating across ministries and levels of government. It establishes an inter-sectoral approach involving the MoE, Ministry of Agriculture, Ministry of Marine Affairs and Fisheries, Ministry of Health, the national research agency (BRIN), Customs and Quarantine authorities, and the provincial governments of West Sumatra, West Kalimantan, and West Papua. Through this collaborative framework, the project strengthens institutional mandates and clarifies roles, for example, enabling environment and agriculture ministries to jointly regulate genetic resource access, while health and fisheries agencies integrate ABS measures into their bioprospecting and traditional medicine programs. Such coordination addresses policy fragmentation by ensuring all relevant authorities are working in concert rather than at cross-purposes. It creates enhanced synergies, for instance, shared databases and permit systems between ministries, and helps manage trade-offs by aligning economic use of biological resources and DSI with conservation and Indigenous community benefits. Crucially, this whole-of-government coherence means that no single sector's actions create a negative ripple effect for others: policy trade-offs are managed and spillover effects are kept in check, so that the project's global environmental benefits are not undermined by misaligned policies or enforcement gaps. CATALYST's vertical integration ensures that national ABS regulations are implemented on the ground in West Papua and West Sumatra, harmonizing provincial bylaws and community protocols with the national framework. This multilevel alignment not only improves compliance and reduces leakage (e.g., illegal resource extraction across jurisdictions), but also supports durable GEBs by embedding ABS in local governance and empowering Indigenous stakeholders

Innovativeness, Potential for Transformation and Scaling Up

The project introduces a set of mutually reinforcing innovations that fundamentally modernize how ABS is governed and practiced in Indonesia, including the emerging dimension of DSI. First, it will **embed ABS into Indonesia's national Online Single Submission (OSS)** e-government platform as a dedicated **OSS-ABS module** (Output 1.3). By routing all ABS permits through this "one-stop" digital gateway (already used nationwide for business and research licensing) the project transforms a fragmented, paper-based process into a workflow-driven system covering application, PIC/MAT documentation (with standard clauses on DSI generation and use), permit issuance, and automatic reporting to the ABS Clearing-House. This digital spine will be complemented by a **national ABS Knowledge Management System (KMS)** hosted on a government platform (Output 4.1), which will curate all non-confidential data, tools, and lessons from pilots, including the model DSI clauses and **ABS Opportunity Portfolios** for West Sumatra, West Kalimantan, and West Papua (Output 3.1). Together, OSS-ABS and the KMS create a powerful feedback loop where each new permit, training, or pilot agreement generates data and knowledge that can immediately inform future decisions, training curricula, and policy refinement.

Second, the project pioneers a **multi-level institutional architecture for ABS** that has not yet been tested in Indonesia: clearly designated national and sectoral ABS Competent National Authorities and a cross-sectoral ABS Steering Committee (Output 1.2) are mirrored by **provincial ABS front offices** in three high-biodiversity provinces (Output 1.4). These front offices will act as single-window ABS service hubs for communities, researchers, and companies, co-developing FPIC-ready community protocols, supporting PIC/MAT negotiations that cover DSI, and feeding real-time information back to CNAs and the Steering Committee. This vertical integration from village to province to national OSS-ABS and KMS turns abstract Nagoya Protocol obligations, including DSI, into an operational, scalable service model for ABS implementation in biodiversity-rich landscapes and seascapes. Finally, the project is explicitly **innovation-oriented on the demand side**: it develops ABS Opportunity Portfolios and brokers pilot IRCC-backed agreements (Outputs 3.1–3.2), demonstrating viable business/community partnership models across forest and marine ecosystems, while mainstreaming emerging topics such as DSI into Indonesian ABS practice.

These innovations give the project strong **transformation and scaling potential**. By building on existing national systems (OSS, government portals, BRIN databases) rather than creating stand-alone platforms, the project maximizes institutional feasibility and reduces recurrent costs, making nationwide roll-out politically and fiscally realistic. The National ABS Roadmap (Output 4.2) will convert lessons from West Sumatra, West Kalimantan, and West Papua into a costed, 5–10-year roadmap for extending provincial front offices, community capacity programs, and OSS-ABS/KMS enhancements to additional provinces, aligning with Indonesia's implementation of the Nagoya Protocol and the Kunming–Montreal GBF. The combination of digital integration, devolved front offices, empowered IPLCs (through FPIC-ready protocols and negotiation teams), and active private-sector onboarding to OSS-ABS (Output

2.3) is expected to gradually normalize compliant, equitable ABS/DSI transactions as standard practice for research and bioprospecting. In the medium term, this positions Indonesia to become a **regional leader in ABS implementation**, able to share its OSS-ABS, KMS, community protocol templates, and pilot deal experiences through SEAN-ABS, the CBD BioBridge Initiative, and WIPO/CBD fora, thereby multiplying the project's impact beyond national borders.

Sustainability: Sustainability of ABS regime enforcement will be ensured by embedding compliance functions within Indonesia's permanent legal, institutional, and digital governance systems rather than through temporary project structures. The project will support formal designation and operationalization of Competent National Authorities and checkpoints under the national ABS framework, clarify their mandates through adopted regulations, SOPs, and inter-agency coordination arrangements, and integrate compliance workflows into the government-hosted OSS-ABS linked to the ABS Clearing-House. This will allow permit processing, IRCC-related procedures, post-access reporting, and monitoring of benefit-sharing obligations to continue as regular public functions after project closure. At the subnational level, Provincial ABS front offices will be housed in existing institutions and will extend compliance support, first-line case handling, and liaison with CNAs beyond Jakarta.

The project's theory of change assumes that effective and sustained enforcement of ABS requirements will emerge when compliance functions are embedded within Indonesia's formal legal mandates, institutional architecture, and digital governance systems, rather than relying on temporary project-based mechanisms. The project will therefore address enforcement gaps through three mutually reinforcing design elements. First, it will establish clear legal and institutional mandates for compliance by supporting the formal designation and operationalization of Competent National Authorities (CNAs) and checkpoints, accompanied by binding regulations, standard operating procedures, and inter-agency coordination arrangements that define roles, responsibilities, and decision-making processes. This ensures that enforcement authority is legally grounded and remains in place beyond the project lifecycle.

Second, it will operationalize enforcement through the integration of compliance workflows into a government-hosted ABS One Stop System (OSS-ABS), linked to the ABS Clearing-House. This system will enable end-to-end traceability of ABS transactions—from access applications, PIC/MAT agreements, and IRCC issuance to post-access reporting and monitoring of benefit-sharing obligations—thereby reducing reliance on ad hoc enforcement and enabling routine, system-based compliance monitoring.

Third, it will strengthen institutional capacity and incentives for enforcement by equipping national and subnational authorities with practical compliance toolkits, training, and operational procedures, and by embedding ABS functions within existing government structures, including provincial ABS front offices that provide first-line compliance support and case handling. These functions will be supported through regular government staffing and budget allocations, ensuring continuity after project closure. The causal pathway underlying this approach is that legally mandated authorities, combined with transparent digital tracking systems and strengthened institutional capacity, will reduce ambiguity, increase detection of non-compliance, and enable consistent enforcement of ABS obligations. This, in turn, is expected to increase user compliance, build trust among providers and IPLCs, and lead to a higher number of legally compliant ABS transactions generating equitable benefits.

Gender Equality and Empowerment

Gender equality is integral to a credible, inclusive, and durable ABS framework in Indonesia. Consistent with the Nagoya Protocol's recognition of the *vital role that women play in access and benefit-sharing* and the need for their full participation in implementation as well as UNDP's Gender Equality Strategy, which calls for gender-responsive management of natural resources, the project will ensure that women and girls benefit equitably from ABS reforms and bioprospecting partnerships. In many Indonesian landscapes, women are key custodians of traditional knowledge on medicinal plants, food crops, seeds, wild foods, and marine resources, and they play central roles in household and community economies, local markets, and research institutions. Yet they are often under-represented in formal land and natural-resource decision-making bodies. As Indonesia's ABS framework transitions from 'law on paper' to actual bioprospecting partnerships, there is a that emerging ABS negotiations and benefit-sharing arrangements could mirror these existing gender inequalities and overlook women knowledge-holders, unless gender-responsive safeguards are built in from the outset. During the PPG, a multi-stakeholder gender analysis will therefore be undertaken, with specific attention to Indigenous Papuan, Minangkabau, and other *adat* communities in West Sumatra, West Kalimantan, and West Papua, to identify barriers such as unequal land and resource rights, limited access to finance and information, restricted mobility, gender-based violence risks, and gaps in technical training and digital access. Findings will inform a costed Gender Action Plan (GAP) with clear responsibilities, timelines, and resources, integrated into the project's M&E, SES, and risk management framework (Output 5.1).

Gender-responsive measures will be embedded across all components and monitored with sex-disaggregated indicators, underpinned by a zero-tolerance policy on sexual exploitation, abuse, and harassment (PSEA) and a confidential, accessible grievance redress

mechanism managed in line with UNDP SES (Output 5.1). Policy instruments and subsidiary ABS regulations (Output 1.1) will be co-developed through consultations that target ≥50% women participants, with deliberate outreach to women-led NGOs, Indigenous women's networks, women researchers, and women entrepreneurs in biodiversity-based value chains. The ABS Steering Committee and sectoral CNAs (Output 1.2) will adopt transparent nomination criteria to achieve at least 40% women's representation and will receive induction on gender-responsive decision-making, FPIC, and equitable benefit-sharing. Capacity building for authorities and institutions (Output 2.1) will reserve ≥50% of training slots for women, including women inspectors, permit officers, and young professionals, and will provide safe and enabling conditions (travel stipends, childcare-sensitive scheduling, gender-balanced facilitation, and appropriate PPE). Community-focused capacity building (Output 2.2) will ensure women knowledge-holders, youth, and marginalized groups are fully represented in FPIC-ready community protocols, ABS committees, and negotiation teams, with training modules tailored to women's literacy and mobility constraints. Private sector engagement (Output 2.3) and ABS awareness campaigns will be co-designed with women leaders and delivered via channels accessible to women (such as community radio, WhatsApp voice notes, village meetings, and market-day sessions) highlighting women's roles in ABS and addressing gendered misconceptions.

The ABS Opportunity Portfolios (Output 3.1) will explicitly profile women-led or women-intensive value chains (e.g., medicinal plant processing, artisanal foods, community-based tourism) and identify opportunities where ABS partnerships can strengthen women's livelihoods. Pilot ABS agreements (Output 3.2) will be designed so that both monetary and non-monetary benefits directly support women's priorities, for example, allocating a share of royalties to women-managed community funds; investing in health, education, and time-saving infrastructure; and providing training, technology transfer, and market access for women's enterprises. The national ABS Knowledge Management System and Roadmap (Outputs 4.1–4.2) will systematically document gender lessons from pilots, track women's participation and benefits, and include specific actions and budget lines to sustain gender-responsive ABS implementation beyond the project's lifetime, thereby contributing to Indonesia's commitments under the GBF and SDG 5.

Private Sector Role

The private sector is a critical partner for operationalizing Indonesia's ABS framework and turning biodiversity assets and associated DSI into fair and sustainable development opportunities. Research-intensive companies and institutions across pharmaceuticals, biotechnology, cosmetics, food and beverages, agriculture, and nature-based tourism rely on access to Indonesia's rich genetic resources and associated traditional knowledge to develop new products and services, in line with global trends in bioprospecting and natural-ingredient markets under the Nagoya Protocol framework and emerging arrangements on DSI benefit-sharing. Within this project, private sector actors are not treated merely as "users to be regulated" but as *co-investors and co-innovators* in equitable ABS partnerships. Through Output 2.3, the project will roll out a targeted engagement and awareness program that explains Indonesia's ABS requirements in plain business language, provides hands-on support to onboard firms and research users to the OSS-ABS one-stop permitting system, and helps them integrate ABS/DSI due diligence into their R&D and ESG compliance systems. Investor-oriented events and bilateral clinics will create a predictable "front door" for companies interested in legal bioprospecting, while reducing transaction costs and legal uncertainty that currently discourage formal engagement.

At the same time, the project positions the private sector as a driver of inclusive benefit sharing and conservation finance in priority landscapes and seascapes. The ABS Opportunity Portfolios for West Sumatra, West Kalimantan, and West Papua (Output 3.1) will translate local biocultural assets and community priorities into bankable collaboration concepts, presenting structured opportunities for companies to enter into Nagoya-compliant ABS partnerships with IPLCs that include clear provisions on DSI generation, use, and benefit-sharing. Under Output 3.2, the project will facilitate the negotiation and implementation of pilot ABS agreements where private partners commit to transparent monetary and non-monetary benefits—such as royalties, milestone payments, technology transfer, co-funding of community enterprises, and support for conservation and climate-resilience measures. Lessons from these pilots will be captured in the national ABS Knowledge Management System and reflected in the National ABS Roadmap (Outputs 4.1–4.2), creating a pipeline of future deals and demonstrating to Indonesian and international investors that ABS is a viable and reputationally positive way to access genetic resources. In this way, the private sector's role evolves from ad-hoc user of biodiversity to a long-term partner in sustaining Indonesia's natural capital and delivering fair, predictable benefits to IPLCs and the wider public.

Coordination and Cooperation with Ongoing Initiatives and Projects.

Does the GEF Agency expect to play an execution role on this project?

☐ Yes ☒ No

Institutional setting and implementation arrangements: The project is expected to be executed by the Ministry of Environment (MoE), which will serve as the lead national counterpart and coordinator for overall implementation of Indonesia's ABS agenda. Core national implementation partners are expected to include BRIN, BAPPENAS, Ministry of Finance/BPDLH, BKPM/OSS-RBA,

DGIP, BPOM, Customs and Quarantine authorities, and relevant line ministries, particularly Agriculture and Marine Affairs and Fisheries, according to their respective mandates under the national ABS framework. At subnational level, implementation is expected to involve provincial governments, conservation units, universities, IPLC representative bodies, civil society organizations, and private sector partners in West Sumatra, West Kalimantan, and West Papua, including as hosts or partners for Provincial ABS front offices and pilot ABS activities. As is standard for a PIF, the detailed project governance structure, including final executing arrangements, formal roles of participating institutions, and coordination mechanisms, will be fully elaborated and agreed during the PPG stage based on further consultations and institutional assessments.

The project will be implemented in strong coordination and collaboration with other relevant programs and projects in the country and abroad to ensure (1) resource optimization, including funding, expertise, and manpower, to avoid duplication of efforts and obtain co-financing; (2) knowledge and experience sharing to enhance the effectiveness of each project, leading to more innovative and well-rounded solutions; and (3) synergy in objectives to amplify their impact, making it easier to achieve these shared objectives on a larger scale. Specifically, the project will directly collaborate with the following initiatives:

Other initiatives	Objective	Areas of collaboration with Malaysia ABS project
FAO/GEF Project "Crop Diversity Conservation for Sustainable Use in Indonesia" (GEF ID: 10511), 2024–2029	Objective: Safeguard and utilize Indonesia's agrobiodiversity (crop genetic resources) in support of food security, farmers' welfare, and global biodiversity goals. **Focus:** A multi-year project working in several provinces to conserve important crop varieties (e.g. rice, cassava, taro, nutmeg, cloves) both in situ (on-farm and wild) and ensure their sustainable use	CATALYST can partner with the Crop-Bio initiative to extend ABS principles to the realm of agricultural biodiversity. This could involve jointly developing community seed banks or databases that record farmers' traditional crop knowledge, with agreements to share benefits if these genetic materials are used in research or breeding. CATALYST's focus on equitable partnerships aligns with Crop-Bio's goals of improving access to genetic materials, so the project and CATALYST together can craft models where breeders, scientists, and local farming communities collaborate under fair benefit sharing terms. Moreover, CATALYST can help translate lessons from Crop-Bio to other sectors (wild biodiversity), ensuring a cohesive national approach to ABS across different genetic resource domains.
UNEP/GEF project "Implementing the National Framework on Access and Benefit Sharing of Genetic Resources and Associated Traditional Knowledge in the Philippines" (GEF ID 10079), 2021-2027	To enhance implementation of the Nagoya Protocol in the Philippines by strengthening the national ABS legal framework, building local capacities, and negotiating ABS agreements. The project reinforces ABS policy, develops information systems, and pilots benefit-sharing agreements to expand economic opportunities and promote biodiversity conservation for communities	Indonesia can learn from the Philippines' experience updating ABS policies and setting up databases (e.g., research permit databases) to avoid reinventing tools. Co-organize trainings for regulators and indigenous communities, leveraging the Philippines' lessons in securing Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) in benefit-sharing. This helps both countries build expertise while ensuring approaches are consistent across the region. Both projects engage companies in bioprospecting; they could share strategies to attract researchers and ensure fair benefits to locals, preventing duplication in developing engagement frameworks.
UNDP/GEF Project "Advancing ABS implementation in Cambodia" (2026-2030)	To establish and implement a national ABS framework in line with the Nagoya Protocol. Cambodia's project recently supported a new ABS Sub-Decree (regulation) to create clear rules for access to genetic resources and equitable benefit-sharing. The forthcoming phase will strengthen ABS institutions at national and sub-national levels for biodiversity conservation and fair sharing of benefits	Indonesia can collaborate with Cambodia to compare notes on ABS legislation implementation to ensure regional consistency and avoid duplicating legal research efforts. Joint workshops for provincial officials and community leaders (since both countries aim to decentralize ABS implementation) could streamline training materials and avoid duplicative outreach efforts. Both projects involve indigenous knowledge; they can share methods for community protocols and benefit-sharing with indigenous communities, ensuring approaches (like PIC/FPIC procedures) are harmonized rather than developed in isolation.
UNDP/GEF Project "Building Access and Benefit Sharing (ABS) Framework for Biodiversity Conservation and Sustainable Use in Thailand" (GEF ID: 10020), 2026-2030	By 2030, to establish and implement a national ABS framework in Thailand that strengthens legal and institutional capacities, engages at least 6,500 community members (50% women) in equitable ABS initiatives, improves the	Indonesia's ABS project can partner with Thailand's to harmonize subsidiary regulations/SOPs (PIC, MAT, checkpoints, DSI/disclosure), co-develop shared toolkits, and enable lightweight digital interoperability between OSS-ABS and Thailand's portal for cross-verifying permit/IRCC IDs. They can exchange IPLC protocol/FPIC templates and pilot a shared value-

Other initiatives	Objective	Areas of collaboration with Malaysia ABS project
	management of 62,662 ha of forest landscapes, and contributes to biodiversity conservation, sustainable use, and fair benefit-sharing, in alignment with the Nagoya Protocol and the Global Biodiversity Framework (GBF)	chain code of practice, while coordinating private sector outreach and recognition for ABS-compliant partnerships.
ASEAN Centre for Biodiversity (ACB) – Regional ABS Capacity Support (ASEAN Member States), ongoing	To strengthen Southeast Asian countries' capacity to implement ABS provisions of the Convention on Biological Diversity. Past ACB-led projects developed national ABS frameworks and provided regional training/workshops on ABS for ASEAN members. The ACB continues to promote harmonized approaches to ABS and sustainable use in the ASEAN region.	Indonesia can work with ACB to ensure its ABS framework aligns with ASEAN guidelines and best practices, using regional model laws or templates ACB has facilitated. Indonesia's project can tap into ACB's network for training modules, expert facilitators, and joint regional workshops on ABS (leveraging ACB's experience from earlier ASEAN ABS capacity-building). This prevents each country from separately developing training materials. Collaborating via ACB on an ASEAN ABS information-sharing platform would let Indonesia and neighbors share permit data, genetic resource inventories, and contract templates – reducing redundant systems and fostering synergy in monitoring transboundary genetic resource use.
CBD Bio-Bridge Initiative (BBI) funded by the Government of the Republic of Korea, 2014 - ongoing	BBI finances technical & scientific cooperation under the CBD and its Protocols (including the Nagoya Protocol on ABS), issuing competitive calls that support multi-country/ regional capacity building projects.	Indonesia's ABS project can use BBI as a matchmaking and seed-funding channel to export/import practical tools—e.g., piloting OSS-ABS features with ASEAN peers via South–South tech transfer packages and ToT. It can also co-host BBI regional workshops on IPLC community protocols, benefit-sharing menus, and digital compliance, positioning Indonesia as a demonstration hub while securing small BBI grants for joint pilots.
GIZ ABS Capacity Development Initiative, 2015-ongoing	A global multi-donor program (led by Germany's GIZ, 2015–2025) focused on building ABS capacities worldwide. Its objective is to improve conditions so providers and users of genetic resources can cooperate successfully under ABS regimes and contribute to conservation. The initiative supports stakeholder engagement, policy integration, and partnerships – advising governments, empowering indigenous communities, and fostering ABS-compliant research/business deals	By engaging with this initiative, Indonesia can access a wealth of global ABS knowledge (model contracts, policy toolkits, lessons learned across Africa/Asia) and avoid duplicating efforts in developing these tools from scratch. Indonesia can send staff to the initiative's international training workshops or ABS dialogues, ensuring its project benefits from tried-and-tested capacity-building approaches and creating a common understanding with other countries. The ABS Initiative often links provider countries with research institutions and companies for bio-discovery partnerships. Indonesia can collaborate to connect with responsible R&D partners, fostering ABS agreements without each country separately scouting for partners.
UNCTAD Global BioTrade Programme (Global, launched 2018)	To promote sustainable trade in biodiversity-based products in developing countries, thereby conserving biodiversity and improving local livelihoods. This program (funded by Switzerland's SECO) works in regions like Southeast Asia to support ethical supply chains for natural ingredients (foods, cosmetics, traditional medicines). It emphasizes benefit-sharing with communities through fair trade of biological resources, complementing ABS's focus on genetic resource R&D.	Indonesia's ABS project can collaborate with BioTrade initiatives to ensure that when genetic resources lead to commercial products, local communities also gain income through ethical trade, not just through formal ABS agreements. This joined approach amplifies benefits to indigenous and local people beyond what ABS royalties alone might achieve. By aligning with the BioTrade program, Indonesia can avoid duplicating efforts in developing value chains for biological resources. For example, if BioTrade has already developed sustainable harvesting protocols or certification for herbs in the region, Indonesia can adopt these standards for its bioprospecting targets, ensuring synergy between legal ABS and market-based conservation. Collaboration helps align ABS permits with bio-product export promotion. Indonesia can coordinate its ABS permitting with BioTrade-supported businesses so that compliance with ABS (PIC, MAT) and BioTrade's ethical sourcing standards are streamlined, reducing redundancy for regulators and companies.

Other initiatives	Objective	Areas of collaboration with Malaysia ABS project
ROK-funded engagement facility on ABS (UNDP, 2024-2025)	To support regional analysis and capacity building on ABS in Asia and the Pacific. The project has analyzed the key barriers in ABS implementation in targeted countries including the Philippines, Malaysia, Thailand, Bhutan, Cambodia and highlighted potential way forward for advancing the ABD Agenda in the region.	The project build upon the findings of the analysis of key barriers to ABS implementation in Indonesia and in the Asia-Pacific region. The project will also benefit from the feasibility study on a ABS Business Facility that the ROK-funded project will develop in 2025-2026, looking at to more effectively engage the private sector in ABS implementation.

Core Indicators

Project Core Indicators		Expected at PIF
1	**Terrestrial protected areas** created or under improved management (hectare)	
2	**Marine protected areas** created or under improved management (hectare)	
3	Area of **land and ecosystems under restoration** (hectare)	
4.1	Area of landscapes under improved management to benefit biodiversity (hectare)	9,650 (TBC at PPG stage)
4.4	Area of High Conservation Value Forest (HCVF) or other forest loss avoided (hectare)	350
5	Area of **marine habitat under improved practices** (hectare)	
6	**Greenhouse Gas Emissions Mitigated** (metric tons of CO_2e)	328,385 (TBC at PPG stage)
7	**Shared water ecosystems** under new or improved cooperative management (count)	
8	Globally over-exploited **marine fisheries** moved to more sustainable levels (metric ton)	
9	**Chemicals of global concern and their waste reduced** (metric ton of toxic chemicals reduced)	
10	Persistent organic pollutants to air reduced (gram of toxic equivalent gTEQ)	
11	People benefiting from GEF-financed investments **disaggregated by sex** (count)	2,000 people (50% is women) (TBC at PPG stage)

CI 4:.1 Area of landscapes under improved practices (outside PAs): at least 9,650 ha of tropical forest (outside PAs) in the West Sumatra, West Kalimantan, and West Papua provinces under community ABS stewardship (at least 2 ABS Agreements), covered by community TK/harvest protocols and conservation actions financed by benefit-sharing (Output 3.2) (GEF CI 4.1).

CI 4.4. Area of High Conservation Value Forest (HCVF) or other forest loss avoided: >=350 ha of tropical forest avoided from conversion/degradation over 20 years within the 10,000 ha project landscape under ABS-supported community stewardship (TBC at PPG stage).

CI 6: Greenhouse Gas Emissions Mitigated: at least 328,385 metric tons of CO2e over 20 years period. Over a 20-year horizon, applying average 2024 natural forest loss rate of 0.37%/year for three project provinces (0.25%/year in West Sumatra, 0.77%/year in West Kalimantan, and 0.1%/year[58] in West Papua) to a 10,000 ha of the project area without ABS agreements will

[58] https://www.globalforestwatch.org

result in an expected loss of ~715 ha, leaving ~9,285 ha of forest standing. With community ABS in place, it was assumed that the deforestation rate will fall at least 50% in each province, reducing the 20-year loss to ~365 ha, leaving ~9,635 ha of forest and avoiding ~350 ha versus the Business-as-Usual scenario. These avoided loss figures were used as land-use inputs for FAO EX-ACT.

CI 11. People directly benefiting from the GEF investment: at least 2,000 people (50% women), including at least 1,000 IPLCs in West Sumatra, West Kalimantan, and West Papua benefiting from local ABS initiatives (GEF CI 11). Other direct beneficiaries include national and provincial government officials (MoE/MoF, Ministry of Agriculture, Ministry of Marine Affairs and Fisheries, Ministry of Health, BRIN, Customs and Quarantine, DGIP and provincial ABS front offices), Indonesian universities and research institutes, private sector companies and SMEs using genetic resources, and civil society and IPLC organizations across Indonesia that receive ABS training, tools, and partnership opportunities. The number of beneficiaries will be revisited and linked to specific project activities at the PPG stage.

RISKS TO PROJECT PREPARATION AND IMPLEMENTATION

The initial risks for the project development and implementation are described in the table below, including indicative risk management measures:

GEF RISK CATEGORIES	Linkage to UNDP ERM Risk Categories	Risk RATINGS	ASSESSMENT AND MITIGATION MEASURES
CONTEXT			
Climate	Social and Environmental	Moderate	**Key Climate hazards:** In the ABS target provinces, increasing temperature variability, altered rainfall patterns, and more frequent droughts may affect the abundance and regeneration of biological resources linked to Traditional Knowledge (TK) and ABS value chains (e.g., medicinal plants, forest NTFPs, marine species). More intense rainfall, flooding, and storm surges may restrict access to community territories, delay FPIC consultations, disrupt TK documentation and verification, and complicate monitoring of ABS pilot agreements. Ecosystem shifts and species range changes could modify the availability of key genetic resources over time, while increased forest fire risk in some areas could damage biocultural landscapes. These climate impacts could slow progress in negotiating and implementing ABS agreements and risk reducing livelihood benefits for IPLCs. **Mitigation Strategies:** The project will integrate climate resilience into the selection and design of ABS pilots and TK safeguarding measures. This includes: (i) climate vulnerability screening of proposed pilot sites and priority species; (ii) supporting communities to diversify TK-based livelihood portfolios and sustainable-use practices to avoid overreliance on highly climate-sensitive species; (iii) embedding ecosystem stewardship and restoration approaches that enhance natural buffers (e.g., forest cover maintenance, agroforestry diversification, reef-friendly resource management); (iv) aligning FPIC, community assemblies, and monitoring schedules with climate and seasonal calendars; (v) coordinating with existing local climate early-warning and disaster preparedness systems to reduce disruption risks; and (vi) documenting and integrating adaptive measures into the National ABS Knowledge System and Roadmap to support iterative learning and national scale-up.
Environment and Social	Social and Environmental	Substantial	**Key Environment and Social risks** stem from documentation and use of Traditional Knowledge (TK), sustainable harvesting of biological resources in pilot ABS value chains, establishment of community–private sector ABS Agreements, and the operation of provincial ABS front offices. Potential impacts include disturbance to ecologically sensitive harvesting sites if resource-use protocols are not followed, uneven control of harvesting pressure where demand increases, and risks of TK misappropriation if FPIC is incomplete or documentation is shared without proper safeguards. Social risks relate to customary tenure and cultural heritage, potential disputes over community representation in ABS negotiations, gender and intra-community inequities in benefit distribution, risks related to labor and occupational

			health and safety in livelihood activities, SEA/SH risks in community engagement processes, and grievances where access, expectations, or benefit distribution are perceived as unfair. These factors could undermine trust, slow ABS agreement finalization, and affect long-term sustainability of community stewardship. **Mitigation Strategies:** The project will apply UNDP/GEF Social and Environmental Standards through a project-wide ESMP and site-specific ESIA/ESMPs where ABS pilots are developed. FPIC processes will be carried out with participatory mapping to recognize customary territories and cultural sites, with chance-find procedures in place. Community representation structures and benefit-sharing arrangements will be formalized in PIC/MAT agreements, supported by gender-responsive measures and accessible grievance redress mechanisms. All field engagement and livelihood activities will adhere to labor, OHS, and community safety requirements, with Codes of Conduct and SEA/SH prevention protocols for facilitators, private-sector partners, and field teams. Any environmental legacies, processing waste, or by-products from pilot value chains will be managed through resource-use and waste-handling plans, including safe storage and disposal or take-back options where feasible. ES performance will be monitored through the project's M&E and adaptive management system, allowing for adjustments in scheduling, site selection, and community engagement approaches if risks emerge.
Political and Governance	Political	Moderate	**Political & governance risks** arise from the need for consistent cross-ministerial coordination in implementing the national ABS framework. Shifts in policy priorities, changes in institutional leadership, and overlapping mandates among environment, agriculture, research permitting, intellectual property, and economic agencies may affect the pace of regulatory harmonization and designation of authorities. Provincial and district-level implementation of ABS procedures may vary, particularly where customary law is influential and where local governments have differing levels of capacity. These factors could slow endorsement of operational guidelines, delay activation of checkpoints and compliance mechanisms, or create uncertainty for community and private sector partners engaging in ABS negotiations. **Mitigation Strategies:** The project will establish a high-level inter-agency coordination platform with agreed roles, responsibilities, and decision-making procedures, supported by formal Memoranda of Understanding where needed. The ABS One Stop System will standardize workflows and data-sharing across authorities to reduce procedural ambiguity. Provincial front offices will receive targeted support to align local implementation with national ABS policy objectives while respecting customary governance practices. Transparent communication, routine progress reviews, and adaptive work planning will help maintain alignment across institutions, regardless of administrative changes
INNOVATION			
Institutional and Policy	Operational	Substantial	**Key Institutional and Policy risks:** The project introduces new regulatory instruments, standardized ABS procedures, and cross-agency coordination mechanisms. There is a risk that legal drafting and alignment across ministries may proceed slowly, or that mandates remain fragmented, leading to uneven interpretation of PIC, MAT, and TK protection requirements. The establishment of Competent National Authorities, checkpoints, and the ABS One Stop System requires sustained policy clarity and administrative commitment. At the subnational level, provincial governments and customary institutions may vary in their understanding and acceptance of ABS roles, which could result in inconsistent application of safeguards, community engagement standards, and benefit-sharing mechanisms. These factors could delay operationalization of the national ABS framework and reduce predictability for users and communities. **Mitigation Strategies:** The project will conduct policy gap analysis and legal harmonization processes early, ensuring that regulatory instruments are anchored in existing legal frameworks and cross-ministerial consensus. Clear standard operating procedures will be co-developed with relevant agencies and embedded into institutional workflows. The project will also support capacity building for provincial authorities and customary governance representatives to ensure local-level

			alignment. Memoranda of Understanding and coordination protocols will document roles and responsibilities among agencies. Lessons from pilot ABS agreements will feed into iterative policy refinement through the national ABS knowledge and learning system.
Technological	Strategic	Substantial	**Key Technological risks identified:** The project relies on digital platforms, data-sharing systems, and documentation tools to manage ABS workflows, including TK protection, PIC/MAT processing, checkpoint compliance, and information exchange through national and international clearing-houses. Risks include system underperformance, software integration challenges, limited connectivity in remote areas, and uneven digital literacy among government agencies, IPLCs, and private sector users. There is also a risk of data security or confidentiality breaches, particularly regarding sensitive TK and community protocols. Limited availability of technical support and long-term maintenance could result in system downtime or reduced usability, which may undermine trust in the ABS process and delay agreement implementation. **Mitigation Strategies:** The project will apply a phased and user-centered approach to system development, ensuring compatibility with existing government platforms and simplifying interfaces for community and local government use. Offline-capable functions, routine data backup procedures, and clear data governance protocols will be established to protect TK and confidential information. Technical support arrangements will be secured through service agreements, help-desk functions, and training for administrators and end users. Documentation materials, standard user guides, and continuous capacity development will support long-term sustainability.
Financial and Business Model	Financial	Substantial	**Key Financial and Business Model risks identified**: The project depends on sustained government resourcing, partner commitments, and private sector engagement to operationalize ABS frameworks and support benefit-sharing arrangements. There is a risk that co-financing commitments may be delayed, that public budgets may shift during administrative cycles, or that private sector partners may be slow to invest in community agreements without clear market incentives. Community enterprises resulting from ABS agreements may have limited access to financing, market linkages, and business development support, which could affect their long-term viability. Additionally, ongoing operational costs for provincial ABS front offices and digital systems may not be consistently integrated into institutional budgets, potentially affecting continuity. **Mitigation Strategies:** The project will secure formalized co-financing arrangements and institutional budget commitments through agreements and implementation plans. Business development support, including value chain planning, market access facilitation, and enterprise strengthening, will be integrated into ABS pilot work. Where feasible, community enterprises will be supported to develop diversified revenue streams and access ethical and impact-oriented buyers. The project will also encourage agencies to embed ABS operational functions into existing budget lines and institutional mandates to promote long-term sustainability. Routine financial monitoring and adaptive work planning will enable timely adjustments if funding or market conditions shift.
EXECUTION			
Capacity for Implementation	Operational	Substantial	**Key Capacity for Implementation Risks:** The project requires coordinated implementation across national ministries, provincial authorities, customary institutions, research agencies, and private sector actors. There is a risk that staffing constraints, turnover, and uneven technical familiarity with ABS concepts may slow execution. Community-level actors responsible for TK safeguarding, FPIC processes, ABS negotiation, and benefit-sharing management may require time and sustained support to develop confidence and organizational structures. Limited logistical capacity and administrative processes at subnational levels may delay field engagement, documentation, approvals, and monitoring. If not addressed, these factors could affect the consistency and pace of project activities. **Mitigation Strategies:** The project will establish a well-staffed Project Management Unit with clearly defined roles, delegated decision-making authority, and structured

			work planning. Capacity development programs will be tailored separately for government agencies, IPLCs, and private sector actors, supported by practical toolkits, guidance materials, and ongoing mentoring. Provincial and community-level facilitators will be engaged to support continuity in FPIC, TK safeguarding, and ABS agreement implementation. Administrative timelines, procurement plans, and field schedules will be coordinated and reviewed regularly, enabling adaptive adjustments where delays arise. Continuous learning will be reinforced through the national ABS knowledge system, strengthening retention and institutional memory.
Fiduciary	Organizational	Substantial	**Key Fiduciary Risks:** The project involves multiple implementing partners, distributed activities across provinces, and community-level financial flows linked to ABS pilot agreements and benefit-sharing arrangements. Risks include procurement delays, limited supplier competition in some regions, and documentation or accounting inconsistencies, particularly where financial management systems vary across institutions. Community organizations involved in ABS benefit administration may initially have limited familiarity with transparent financial procedures, creating potential exposure to ineligible expenditures, misallocation, or internal disputes. Currency fluctuations and changes in market prices for operational inputs may also affect budget execution. **Mitigation Strategies:** The project will apply UNDP/GEF-compliant financial management and procurement procedures, including clear approval workflows, segregation of responsibilities, and standardized documentation requirements. Capacity-building and mentoring will be provided to government and community partners on budgeting, record keeping, procurement steps, and reporting. Procurement will use transparent, competitive processes, supported by planning tools and framework agreements where feasible. Financial flows to community-level entities will be accompanied by simple accounting templates, oversight mechanisms, and regular review meetings. Periodic internal reviews and external audits will ensure accountability and enable corrective action where needed.
Stakeholder	Strategic	Moderate	**Key risks identified include:** diverging expectations and interpretations of ABS roles and responsibilities among national ministries, provincial authorities, customary councils, community organizations, and private sector actors, which may slow development and implementation of ABS agreements. There is a risk that community participation processes may become uneven over time, with some voices—such as women, youth, traditional knowledge custodians, or families with weaker social standing—being less heard in negotiations or benefit-sharing discussions. Misunderstandings around the meaning and implications of TK documentation, resource-use conditions, or commercial engagement may create tensions or mistrust within and between communities. If benefit-sharing arrangements, representation, or decision-making procedures are not perceived as transparent or fair, grievances could emerge and undermine the credibility and durability of ABS agreements. **To mitigate these risks,** the project will: implement a gender-responsive Stakeholder Engagement Plan and accessible grievance redress mechanism, ensuring that FPIC processes are conducted with community-driven representation and culturally appropriate dialogue. Participatory mapping and community governance protocols will be used to clarify territory, custodianship, and roles in ABS negotiations and benefit distribution. Community benefit-sharing arrangements will be co-designed and documented transparently, with capacity-building and facilitation to support inclusive decision-making. Engagement with private sector actors will emphasize clarity of expectations and responsible conduct, while routine reflection and feedback loops through provincial front offices and the national ABS knowledge platform will help maintain trust and adapt approaches when needed.
Overall Risk Rating		**Substantial**	**Assessment and Mitigation Measures:** The project carries a **Substantial overall risk** due to the combined challenges of cross-institutional coordination, safeguarding TK, ensuring equitable benefit-sharing, maintaining digital systems and community enterprises, and managing multi-level fiduciary and implementation arrangements. To address this, the PMU and partners will conduct regular risk reviews, integrate findings into Project Board decisions and annual planning, and apply adaptive

			management where needed. Risk oversight is embedded in the project's M&E processes and supported by clear governance mechanisms, co-management arrangements with communities, and capacity and enterprise support measures that reinforce long-term sustainability.

Safeguards Rating (PIF level): SUBSTANTIAL (refer to Annex D for UNDP Social and Environment Screening Procedures.

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

The project's comprehensive approach is well-aligned with the Objective 2 of GEF BD FA, GBF Targets, SDGs, country priorities.

Project alignment with the GEF-8 Biodiversity Objective 1

Focal Area	Focal Area Objective	Contribution to the Objective
Biodiversity	Objective 2. To effectively implement the Cartagena and Nagoya protocols (Goals A, B and C of the GBF)	By establishing a coherent national ABS legal and institutional framework, protecting and documenting TK, piloting IRCC-backed ABS agreements, and building national capacity and knowledge systems for compliant research and monitoring, the project directly supports Indonesia's effective implementation of the Nagoya Protocol

Project contribution to GBF Targets

GBF Target	Contribution to the target
Target 13 - Access and benefit sharing	By adopting the PP-ABS and ministerial regulations, operationalizing OSS-ABS, designating CNAs and checkpoints, and piloting IRCC-backed ABS agreements with IPLCs that generate fair monetary and non-monetary benefits, the project directly supports Indonesia's implementation of national ABS commitments under GBF Target 13
Target 20 – Capacity building & cooperation	By training authorities, provincial institutions, IPLCs, and private sector actors; developing standardized ABS tools and curricula; and strengthening inter-agency coordination and provincial ABS front offices, the project builds the human and institutional capacity needed for national implementation of Indonesia's KMGBF commitments.
Target 21 – Knowledge Sharing & Data Accessibility	By establishing a national ABS knowledge management system linked to OSS-ABS and the ABS Clearing House, and by producing toolkits, case studies, and guidance on TK and DSI, the project strengthens national systems for biodiversity-related knowledge, transparency, and accessibility
Target 22 – Inclusive & Equitable Biodiversity Governance	By embedding FPIC, MAT, community protocols, and IPLC participation in ABS decision-making and agreements, the project strengthens inclusive governance and recognition of IPLCs as rightsholders and custodians of biodiversity and traditional knowledge
Target 23 - Gender Equality and a Gender-Responsive Approach for Biodiversity Action	By applying gender-responsive ABS procedures, targeting at least 50% women in training and direct beneficiaries, and promoting women's participation in community ABS governance and benefit-sharing, the project contributes to Indonesia's gender-responsive biodiversity action.

Project contribution to SDGs

SDG	Direct contribution
SDG 5 (Gender Equality)	Implements a Gender Action Plan, targets ≥50% women in training, and ensures women's equitable roles in PIC/MAT and benefit governance.
SDG 9 (Industry, Innovation and Infrastructure)	By putting in place a clear ABS regulatory framework, digital OSS-ABS infrastructure, and pilot community–private sector bio-innovation partnerships, the project creates an enabling environment for sustainable R&D and biobased industries in Indonesia

SDG 12 (Responsible Consumption and Production)	Enforces lawful access and sustainable harvesting/cultivation via ABS legal framework, checkpoint due-diligence, and community protocols.
SDG 15 (Life on Land)	Embeds conservation conditionality in ABS deals and finances community stewardship, strengthening sustainable use of biodiversity.
SDG 17 (Partnerships for the Goals)	Leverages ASEAN/WIPO/CBD cooperation, public–private ABS partnerships, and a transparent finance mechanism to mobilize co-funding and technology transfer.

Project contribution to the national and international environmental and development priorities

Priorities	Contribution
National Biodiversity Strategy and Action Plan (IBSAP) 2025-2045	By establishing Indonesia's operational ABS framework, strengthening protection and documentation of traditional knowledge, building the capacities of national and provincial institutions, IPLCs, and private sector actors, and piloting ABS agreements that generate fair and equitable benefits linked to biodiversity stewardship, the project directly supports implementation of the IBSAP 2025–2045 objectives on conservation and sustainable use of genetic resources, equitable benefit-sharing, inclusive biodiversity governance, and enhanced participation of local communities and women in biodiversity action. The project is fully aligned with the Kunming–Montreal Global Biodiversity Framework (KMGBF) and Indonesia's National Biodiversity Strategy and Action Plan (IBSAP) 2025–2045, particularly the national targets related to access and benefit-sharing (ABS), protection of traditional knowledge (TK), and inclusive biodiversity governance. At the global level, the project directly contributes to KMGBF Target 13 on fair and equitable sharing of benefits from genetic resources and associated traditional knowledge, including digital sequence information (DSI), by establishing a functional national ABS system and enabling compliant ABS transactions. It also contributes to Targets 20 and 21 by strengthening capacities, data systems, and knowledge management for biodiversity governance; and to Targets 22 and 23 by promoting inclusive, gender-responsive participation of Indigenous Peoples and Local Communities (IPLCs) in ABS processes and benefit-sharing arrangements. At the national level, these global commitments are reflected in Indonesia's IBSAP 2025–2045, which translates KMGBF targets into national priorities and measurable actions. The project directly supports IBSAP targets related to: (i) strengthening the national ABS framework and implementation mechanisms; (ii) ensuring fair and equitable sharing of benefits from the utilization of genetic resources and associated traditional knowledge; (iii) safeguarding traditional knowledge and recognizing the rights of Indigenous Peoples and local communities; and (iv) enhancing inclusive and participatory biodiversity governance, including gender equality.
National Medium-Term Development Plan (RPJMN) 2025-2029	By completing Indonesia's ABS framework, operationalizing OSS-ABS, and piloting community–private sector bio-innovation deals, the project directly supports RPJMN 2025–2029 priorities on strengthening a sustainable, innovation-driven green/blue economy
Indonesia's Updated NDC (2025)	By operationalizing ABS Agreements and funding IPLC-led forest conservation and sustainable use, the project lowers deforestation rate and strengthens ecosystem-based resilience, directly advancing Indonesia's Updated NDC (2025)
CBD COP-15 Decision 15/9 and CBD COP-16 Decision 16/2	By supporting Indonesia to develop and implement a comprehensive national ABS framework with explicit DSI provisions, establish institutional and digital systems (CNAs, OSS-ABS, checkpoints, KMS) to monitor DSI use and channel benefits

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment*:**
We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).
☒ Yes ☐ No

Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

☒ Yes ☐ No

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities? ☒ Yes ☐ No

Civil Society Organizations? ☒ Yes ☐ No

Private Sector? ☐ Yes ☐ No

Key Consultations for the PIF Development

Name of the expert/ institute	Description	Date
Ministry of Environment – Directorate of Biodiversity Conservation (KKH)	Opening remarks; political–legal direction; framework for the RPP & eventual RUU The meeting focuses on preparing a comprehensive and coherent RPP on Genetic Resources, aligned with Article 63 of Law 32/2009. DG is targeted for Prolegnas 2026–2029; urgency note must be ready by August. KLH/MoE, as CBD National Focal Point, will lead the preparation of a national canvas, while sectors contribute technical content. ABS benefits are not limited to monetary forms; the RPP must regulate domestic and international utilization mechanisms.	7 July & 19 Aug 2025
BRIN – Prof. Gono Semiadi	Regulatory gaps; need for harmonized mindset; updating national academic text: SDG spans forestry, agriculture, fisheries, research → requires inter-sectoral integration under KLH/MoE leadership. Current academic text for SDG exists but requires major updates (especially DSI). Many existing sectoral regulations are outdated → RPP must reflect global developments and new obligations. Question: What should be the entry point—Law 32/2009 or development of a new SDG Law?	7 July & 19 Aug 2025
BRIN – Dr. Rullyana Susanti	Restrictions in research access; missing support systems: Researchers experience significant challenges accessing SDG under current regulations. Need to formally include the research sector as part of SDG governance. Shift the mindset: SDG governance should focus on benefits and incentives, not only biopiracy concerns.	7 July 2025
BRIN – Prof. Andria (Medicinal Plant Research Centre)	Practical issues in implementation; absence of unified guidance. No central reference guideline exists for SDG management in practice. Difficulty identifying which regulation to use for field implementation → RPP SDG is urgently needed to provide clarity.	7 July 2025

Name of the expert/ institute	Description	Date
BRIN – Online Participants (Irham, Anik BD)	R&D governance and clarity on MTA/ABS procedures Emphasis on simplifying access permits and Material Transfer Agreement processes to support national research competitiveness.	7 July 2025
UNPAD – Dr. Gusman Siswandi	Political priority; law hierarchy; DSI; TK protection; coordination across sectors SDG is included in IBSAP 2025–2045 Goal 2, providing strong policy justification. Many sectors already regulate SDG → need for overarching national regulation to avoid contradictions. DSI is a major new challenge; RPP must incorporate digital genetic information. Communities (particularly customary communities) must be recognized as holders of Traditional Knowledge (PT-SDG). Ideally SDG is regulated through a Law (UU); a PP alone may be insufficient for national and international legal coherence.	7 July 2025
Ministry of Agriculture – Food Crops Research (Nurul)	Sectoral readiness; existing agriculture regulations Agriculture already has Ministerial Regulation 37/2017, but it does not yet cover DSI. Agriculture is ready to contribute sectoral technical content to the RPP.	7 July & 19 Aug 2025
Directorate KKH Technical Team, Ministry of Environment	Substance design for the RPP Substances must cover: central–regional authority, SDG utilization procedures, and law enforcement. For domestic ABS (e.g., cosmetics/pharma), non-monetary benefits must be recognized.	7 July & 19 Aug 2025
DJKI – Directorate General of Intellectual Property, Ministry of Law	Link between SDG and patents (relevant based on presentation materials) Under the amended Patent Law (UU 65/2024), applicants must declare the origin of SDG. Purpose: prevent misappropriation by foreign entities and support fair benefit-sharing mechanisms.	7 July & 19 Aug 2025
IPB University – ABS Implementation Notes	National lessons learned & barriers for ABS implementation Key weaknesses: fragmented institutional arrangements, low awareness, lack of PIC/MAT templates, limited database integration, and low prioritization. Need stronger enabling conditions, revised regulations, and national clearing-house improvements.	7 July & 19 Aug 2025
KEHATI (Biodiversity Foundation)	Community-based conservation; protection of genetic resources; ABS for livelihood benefits Emphasized that community custodians must be central to SDG regulation, especially Indigenous and local communities whose customary territories hold high biodiversity.	19 Aug 2025

Name of the expert/ institute	Description	Date
	Stressed the importance of developing benefit-sharing models that directly support community livelihoods and conservation incentives. Suggested strengthening community-friendly PIC/MAT mechanisms, ensuring communities are not disadvantaged by technical/legal complexity. Recommended integrating SDG regulation with national biodiversity finance mechanisms and community conservation funds.	
WGII – Working Group ICCAs Indonesia	Customary territories; community protocols; recognition of Indigenous rights Highlighted that SDG governance must respect Indigenous Peoples and Local Communities (IPLCs) as rights-holders, not merely stakeholders. Urged inclusion of Community Protocols in ABS procedures, ensuring PIC reflects customary norms, not just administrative requirements. Warned that without safeguards, SDG regulation could exclude or marginalize Indigenous custodians whose knowledge underpins TK.	19 Aug 2025
Ministry of Foreign Affairs	International obligations; Nagoya Protocol diplomacy; harmonization with global ABS systems Emphasized the need for RPP SDG to align with international CBD/Nagoya obligations and protect Indonesia in global negotiations. Highlighted the geopolitical importance of DSI, as global debates are ongoing and Indonesia must adopt a clear national position. Recommended consistency with international ABS clearing-house mechanisms to avoid compliance gaps. Stressed diplomatic risks if Indonesia's SDG regulation conflicts with trade agreements or fails to meet treaty obligations.	19 Aug 2025

Private Sector

Will there be private sector engagement in the project?

☒ Yes ☐ No

And if so, has its role been described and justified in the section B project description?

☒ Yes ☐ No

Environmental and Social Safeguards

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

☒ Yes ☐ No (If –and only if— NO is selected, a pop-up field should open for the Agency to provide an explanation)

E. OTHER REQUIREMENTS

Knowledge management
We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)
☒ Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds		(in $)		
					Grant/Non-Grant (For NGI Projects Only)	GEF Project Grant	Agency Fee	Total GEF Financing
UNDP	GEFTF	Indonesia	Biodiversity	BD STAR Allocation: BD-2	-	5,000,000	475,000	5,475,000
Total GEF Resources					**-**	**5,000,000**	**475,000**	**5,475,000**

Project Preparation Grant (PPG)

Is Project Preparation Grant requested? ☒ Yes ☐ No
If yes[59]: fill in PPG table (incl. PPG fee)

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in $)		
					PPG	Agency Fee	Total PPG Funding
UNDP	GEFTF	Indonesia	Biodiversity	BD STAR Allocation: BD-2	150,000	14,250	164,250
Total PPG Amount					**150,000**	**14,250**	**164,250**

Sources of Funds for Country STAR Allocation

GFEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Source of Funds	Total
UNDP	GEFTF	Indonesia	Biodiversity	BD STAR Allocation	5,639,250
Total GEF Resources					**5,639,250**

Indicative Focal Area Elements

Programming Directions	Trust Fund	(in $)	
		GEF Project Financing	Co-financing
BD-2-2	GEFTF	5,000,000	35,163,000
Total Project Cost		**5,000,000**	**35,163,000**

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount ($)

[59] *Note: Make this into a "pop-up" which appears only if PPG was selected, and if amount requested is above limits, they have to justify it*

Recipient Country Government	Ministry of Environment	Public Investment	Recurrent Expenditure	30,000,000
Recipient Country Government	Ministry of Planning (BAPPENAS)	Public Investment	Recurrent Expenditure	163,000
Recipient Country Government	Ministry of Forestry	Public Investment	Recurrent Expenditure	750,000
Private Sector	Bio Pharma	Public Investment	Investment Mobilized	1,500,000
Other	Non-governmental programme (TBC)	Public Investment	Investment Mobilized	250,000
Other	Bilateral donor projects with MoE	Public Investment	Investment Mobilized	1,500,000
Other	IBIOFUND	Public Investment	Investment Mobilized	1,000,000
Total Co-financing				**35,163,000**

Explanation of the Co-financing:
The Ministry of Environment (MoE) will provide an estimated US$30,000,000 in public co-financing to the project in the form of recurrent expenditures. This contribution comprises staff time, operational budgets, and routine program costs associated with the development, implementation, and enforcement of Indonesia's ABS policy and regulatory framework, as well as ongoing support to biodiversity conservation, IPLC engagement, and knowledge management relevant to ABS. These resources will directly complement GEF-financed activities by sustaining government technical teams, coordination mechanisms, and field-level supervision in the project landscapes, and by ensuring that ABS procedures, guidelines, and monitoring arrangements are institutionalized within MoEF's core work. This co-financing therefore reflects the Government's commitment to mainstream ABS into its regular programs and to sustain project outcomes beyond the lifetime of GEF support. The BAPPENAS cofinancing is committed to improving forest governance mechanisms, strengthening forest-producer cooperatives and supporting district planning and coordination. Indicative cofinancing has been identified from Ministry of Forestry (US$ 750,000), bi-lateral donors currently working on strengthening forestry sector governance (US$ 1,500,000) and private sector companies such as Bio Pharma using NTFPs (US$ 1,500,000), the IBiofund of the Indonesia Environment Fund supporting livelihoods based on forest NTFPs (US$ 1,000,000) and non-governmental programmes (US$ 250,000).

ANNEX B: ENDORSEMENTS

Name of GEF Agency Coordinator	**GEF Agency Coordinator Contact Information**
Ms. Nancy Bennett Executive Coordinator Vertical Funds Programme Support, Oversight and Compliance Hub Bureau for Policy and Programme Support UNDP	nancy.bennet@undp.org
Name of Agency Project Coordinator	**Agency Project Coordinator Contact Information**
Ms. Tharuka Dissanaike, Regional Technical Advisor, Ecosystems and Biodiversity, UNDP	tharuka.dissanaike@undp.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name of GEF OFP	**Position**	**Ministry**	**Date *(MM/dd/yyyy)***

Erik Teguh Primiantoro, S.Hut., MES.	Advisor to the Minister for International Relations and Environmental Diplomacy	Ministry of Environment	12/16/2025

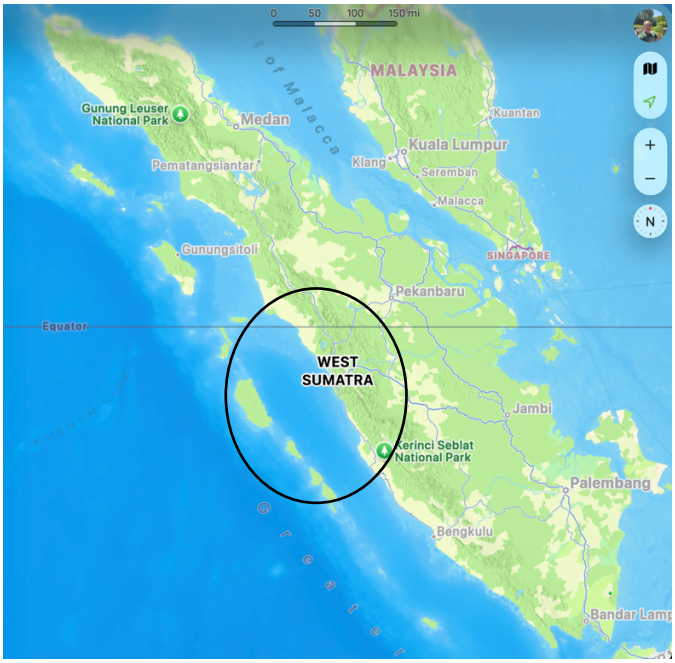
NGIs do not require a Letter of Endorsement if beneficiaries are: i) exclusively private sector actors, or ii) public sector entities in more than one country. However, for NGI projects please confirm that the agency has informed the OFP of the project to be submitted for Council Approval ☐ YES

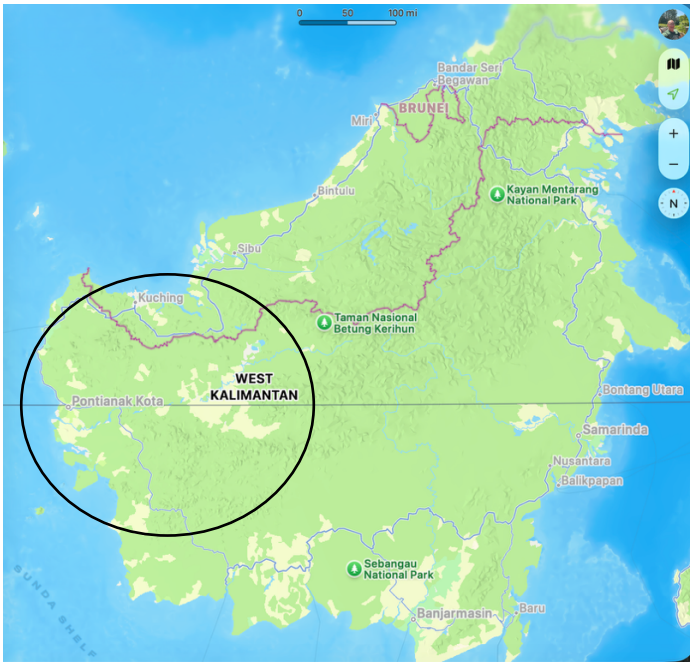
Compilation of Letters of Endorsement

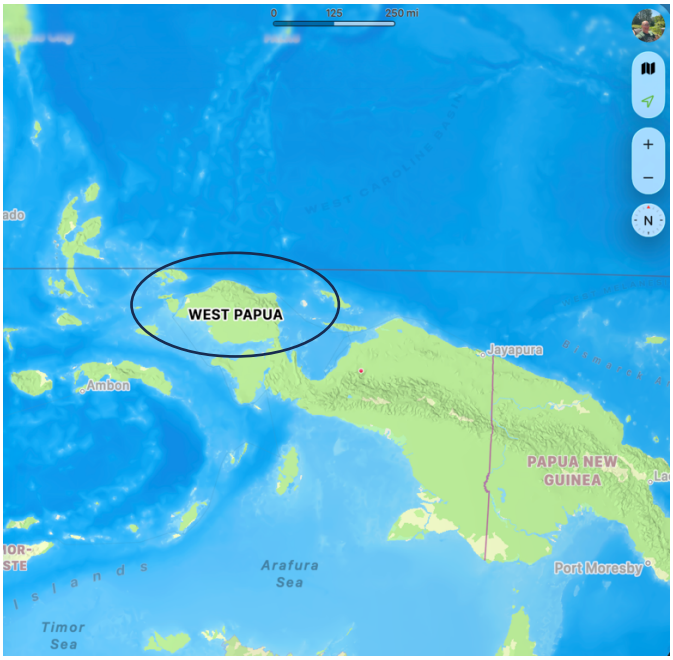
Please attach the Operational Focal Point endorsement letter(s) in this Annex. For SGP, use the SGP OFP endorsement letter format. For regional and global projects (as appropriate): please include a compilation of the signed LOEs in one PDF file in this annex.

ANNEX C: PROJECT LOCATION

Please provide geo-referenced information and map where the project interventions will take place







Project areas: West Sumatra, West Kalimantan, and West Papua

Project area coordinates in decimal degrees, WGS 1984 datum

Province	Longitude	Latitude
West Sumatra	100.3633	-0.9248
West Kalimantan	109.325	-0.0319
West Papua	134.0767	-0.8614

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Desertification
Climate Change Mitigation 0	Climate Change Adaptation 0	Biodiversity 2	Desertification 0

<< Rio Markers may be expanded in GEF-8 beyond markers for CCM and CCA>>

ANNEX F: TAXONOMY WORKSHEET

Separate file